

Lower Oligocene (Kiscellian) ostracods in Hungary – Systematic description

Miklós MONOSTORI¹

(with 28 plates)

Abstract

This work is the first part of a monograph describing the ostracod fauna of the Oligocene sediments of Hungary. It contains the description of the forms occurring in the Lower Oligocene (Kiscellian stage): *Cytherella compressa* (VON MÜNSTER, 1830), *Cytherella dentifera* (MÉHES, 1941), *Cytherella* ex gr. *beyrichi* (REUSS, 1851), *Cytherella draco* PIETRZENIUK, 1969, *Cytherella hyalina* MÉHES, 1941, *Cytherella mehesi* BRESTENSKÁ, 1975, *Cytherella transversa* SPEYER, 1863, s. l., *Cytherella (Cytherelloidea)* cf. *hieroglyphica* (BOSQUET, 1852), *Cardobairdia boldi* PIETRZENIUK, 1969, *Bairdia rupelica* MONOSTORI, 1982, *Bairdia?* sp. 1, *Cytheromorpha subalpina dorsodepressa* MONOSTORI, 1985, *Schizocythere?* sp., *Schizocythere?* sp. juv., *Paijenborchella (Eopaijenborchella) sturovensis* BRESTENSKÁ, 1975, *Callistocythere* sp., *Eucytheridea reticulata* GOERLICH, 1953, *Cytheridea* ex gr. *mülleri* (VON MÜNSTER, 1830), *Cytheridea* ex gr. *pernota* OERTLI et KEIJ, 1956, *Miocyprideis rara* (GOERLICH, 1953), *Cyamocytheridea punctatella* (BOSQUET, 1852), *Hemicyprideis anterocostata* MONOSTORI, 1982, *Hemicyprideis helvetica* (LIENENKLAUS, 1895), *Hemicyprideis parvula* MALZ & TRIEBEL, 1970, *Schuleridea rauracica* OERTLI, 1956, *Schuleridea rauraciformis* MONOSTORI, 1985, *Cuneocythere (Cuneocythere) marginata anterodepressa* MONOSTORI, 1982, *Cuneocythere (Cuneocythere) truncata* LIENENKLAUS, 1894, *Krithe papillosa* (BOSQUET, 1852), *Krithe pernoides* (BORNEMANN, 1855), *Krithe* sp. 1, *Krithe* sp. 2, *Parakrithe costatomarginata* MONOSTORI, 1982, *Parakrithe* sp. 1, *Trachyleberis* cf. *spinosa* (LIENENKLAUS, 1900), *Costa hermi* WITT, 1967, *Agrenocythere ordinata* (DELTEL, 1961), *Pterygocythereis* cf. *ceratoptera* (BOSQUET, 1852), *Pterygocythereis* n. sp. ?, *Echinocythereis ligula* LIENENKLAUS, 1896, *Henryhowella asperima* (REUSS, 1850), *Protobuntania sublatissima arcuatocosta* (BRESTENSKÁ, 1975), *Leguminocythereis sorneana* OERTLI, 1956, *Leguminocythereis?* *cellulataformis* n. sp., *Megahemicythere oertlii* WITT, 1967, *Pokornyyella?* sp. 1, *Grinioneis* sp., *Hornibrookella* ex gr. *macropora* (BOSQUET, 1852), *Bosquetina brestenscae* n. sp., *Bosquetina zalanyii* BRESTENSKÁ, 1975, *Occultocythereis rupelica* MONOSTORI, 1982, *Occultocythereis* ex gr. *mutabilis* TRIEBEL, 1961, *Cytheretta posticalis* TRIEBEL, 1952, *Cytheretta variabilis* OERTLI, 1956, *Loxoconcha carinata tardense* MONOSTORI, 1985, *Loxoconcha delemontensis hungarica* MONOSTORI, 1982, *Loxoconcha favata* KUIPER, 1918, *Loxoconcha subovata* (VON MÜNSTER, 1830) sensu BRESTENSKÁ, 1975, *Loxoconcha* ex gr. *aequapunctata* DELTEL, 1964, *Loxoconcha* sp. 1, *Eucytherura dentata* LIENENKLAUS, 1905, *Cytheropteron emmeneggeri* SCHERER, 1964, *Cytheropteron* cf. *triangulare* LIENENKLAUS, 1900, *Uroleberis striatopunctata* DUCASSE, 1967, *Protoargilloecia angulata* Deltel, 1961, *Paracypris?* *rupelica* MONOSTORI, 1982, *Paracypris?*

¹ Department of Palaeontology, Eötvös University, P.O. Box 120, H–1518 Budapest, Hungary

kisegedensis n. sp., *Paracypris* ex gr. *propinqua* TRIEBEL, 1963, *Paracypris* cf. *bouldnorenensis* KEEN, 1978, *Candona fertilis* TRIEBEL, 1963, *Candona? recta* LIENENKLAUS, 1905, *Candona? sp.* indet., *Moenocypris bockenheimensis* TRIEBEL, 1963, *Curvopsis curvata* (LIENENKLAUS, 1905), *?Curvopsis curvata* (LIENENKLAUS, 1905), *Cypridopsinae* gen et sp. indet 3, 1982.

Localities will be figured in a forthcoming paper on palaeoecological results.

All specimens are deposited in the Collection of the Palaeontological Department of Eötvös University. This study was supported by Hungarian OTKA Foundation, Project N° T 032472.

Systematic description

Subclass Ostracoda LATREILLE, 1806
Order Podocopida G. W. MÜLLER, 1894
Suborder Platycopa SARS, 1866
Familia Cytherellidae SARS, 1866
Genus *Cytherella* JONES, 1849

Cytherella compressa (VON MÜNSTER, 1830)

Pl. I, figs 1–4.

1830. *Cythere compressa* n. sp. – MÜNSTER, p. 64.

1982. *Cytherella compressa* (VON MÜNSTER) – MONOSTORI, pp. 45–47, Pl. II, f. 6–9. (cum syn.)

1985. *Cytherella (Cytherella) compressa* (VON MÜNSTER, 1830) – MONOSTORI, pp. 165–166.

Remarks

In the description from 1982 (p. 46) the right and left valves are changed, in the text of the figs (Pl. II, f. 6–9.) they are correct. There are some variations in the lengthening of the carapace. See: remarks at *C. dentifera*

Dimensions

Carapace L = 0.78–0.86 mm
H = 0.48–0.54 mm
L/H = 1.53–1.69
W = 0.35–0.40 mm

Occurrence

Kiscell–1 borehole 91.5 m; Budapest, Metro H–1 borehole 25.0–60.0 m; Budapest, Metro H–3 borehole 58.6–61.6 m; Budapest, Metro H–5/1 borehole 41.0 m; Budapest, Metro H–7 borehole 24.0–105.5 m; Budapest, Metro H–7/1 borehole 54.5–55.5 m; Budapest, Metro H–8 borehole 36.0–55.0 m; Budapest, Metro H–8/1 borehole 28.0–32.0 m; Budapest, Metro H–9 borehole 19.5–59.8 m; Budapest, Metro H–11 borehole 23.5m; Budafok–2 borehole 357.0–461.4 m; Szentendre–2 borehole 764.0–1020.0 m; Cserépváralja–1 borehole 402.0–407.6 m; Varbó–50 borehole 404.8–546.8 m; Noszvaj. Sikfőkút quarry samples 11, 18; Eger Wind brickyard borehole 52.9–77.1 m; Kiséged.

manganiferous clay sample N^o4; Alcsútdoboz-3 borehole 487.1 m.

Material

156 specimens.

Stratigraphical range without Hungary

Belgium: Upper Ypresian–Rupelian; The Netherlands: Bartonian–Rupelian?; Great Britain: Bartonian; Austria: Middle Eocene; Ukraine: Eocene; Czechoslovakia: Lower Oligocene–Upper Oligocene.

Stratigraphical range in Hungary

Priabonian–Upper Oligocene

Cytherella dentifera MÉHES, 1941

Pl. 1, Figs 5–7.

1941. *Cytherella dentifera* n. sp. – MÉHES, pp. 78–90, Pl. VII, figs 12–16, textfigs 20a, 94, 103.

1975. *Cytherella dentifera* MÉHES – BRESTENSKÁ, p. 381, Pl. 3, figs 10–14.

1982. *Cytherella dentifera* MÉHES, 1941 – MONOSTORI, pp. 47–48, Pl. III, figs 1–4.

Remarks

There are some specimens very similar in their form to *C. compressa* and having minor anterior wrinkles and posterior denticles. They were described by MÉHES (1941) as *Cytherella dentifera*. I think, the wrinkles and denticles are not correct species characters but their occurrence may be an occasional individual phenomena. In this case *C. dentifera* = *C. compressa*.

Dimensions

carapace L = 0.76–0.87 mm
H = 0.48–0.54 mm
L/H = 1.54–1.68.

Occurrence

Kiscell-1 borehole 89.5 m; Budapest, Metro H-3 borehole 51.0–54.8 m; Budapest, Metro H-7 borehole 55.0–60.0 m; Budapest, Metro H-7/1 borehole, 50.0–52.0 m; Budapest, Metro H-8 borehole 18.0 m; Budapest, Metro H-9 borehole 52.0–55.6 m; Budapest, SzOT-1 borehole 16.0 m; Szentendre-2 borehole 819.0–1031.0 m; Alcsútdoboz-3 borehole 487.1 m.

Material

25 specimens

Stratigraphical range without Hungary

Czechoslovakia: Oligocene.

Stratigraphical range in Hungary
Priabonian–Upper Oligocene

Cytherella ex gr. *beyrichi* (REUSS, 1851)
Pl. 1, fig. 8, Pl. 2, fig. 1.

Remarks

Original and most of the other figures show a densely pitted rectangular form with rounded corners. On BRESTENSKÁ's (1975) figure the posterior end is narrower than the anterior one. That is true also for the forms described here. There is a dense pitting on the lateral surface. Characteristic is a wide anterior and a small posteroventral depressed rim.

Dimensions

carapace L = 0.78 mm
H = 0.47 mm
L/H = 1.66

Occurrence

Varbó–50 borehole 433.6–439.5 m; Eger Wind brickyard borehole 69.8–73.1 m.

Material

5 specimens.

Stratigraphical range in Hungary
Oligocene.

Cytherella ex gr. *draco* PIETRZENIUK, 1969
Pl. 2, fig 2.

1982. *Cytherella draco* PIETRZENIUK, 1969 – MONOSTORI, pp. 49–50, Pl. IV, figs 1–3.

Remarks

Characteristical the nearly oval form, another *Cytherella* species of the Hungarian Oligocene have more „quadrate” outline.

Dimensions

carapace L = 0.81–0.86 mm
H = 0.55–0.58 mm
L/H = 1.46–1.48

Occurrence

Budapest, Metro H–1 borehole 25.0–34.8 m; Budafok–2 borehole 378.4–384.1 m; Varbó–50 borehole 445.0–460.0 m; Eger Wind brickyard borehole 53.8–71.5 m.

Material

22 specimens.

Stratigraphical range in Hungary

Priabonian–Upper Oligocene.

Cytherella hyalina MÉHES, 1941

Pl. 2, figs. 3–5.

1941. *Cytherella hyalina* n. sp. – MÉHES, p. 78, Pl. VII, figs 7–9.

1975. *Cytherella hyalina* MÉHES, 1941 – BRESTENSKÁ, pp. 381–382, Pl. 1, figs 12–14, Pl. 2, figs 1–3.

1982. *Cytherella* aff. *mehesi* BRESTENSKÁ, 1975 – MONOSTORI, pp. 50–51, Pl. IV, figs 4–7. (pars)

1985. *Cytherella* aff. *mehesi* BRESTENSKÁ, 1975 – MONOSTORI, p. 166, Pl. 1, figs 3–4. (pars)

Remarks

Many specimens have shape similar to *Cytherella mehesi* and have anterior wrinkles and posterior denticles. Similarly to the *C. dentifera*, the denticles and wrinkles q54 maybe not specific characters, in this case *C. hyalina* = *C. mehesi* (see also remarks at *C. dentifera*).

Dimensions

carapaces L = 0.76–0.88 mm

H = 0.49–0.56 mm

L/H = 1.52–1.63

Occurrence

Kiscell–1 borehole 83.4 m; Budapest, Metro H–3 borehole 50.3–53.3 m; Budapest, Metro H–7/1 borehole 26.0–47.7 m; Budapest, Metro H–9 borehole 24.0–28.0 m; Budapest, Metro H–11 borehole 23.5 m; Budapest, Ibolya u. quarry 7.0 m; Budapest, SzOT–1 borehole 5.5 m; Budapest, SzOT–2 borehole 46.0–58.0 m; Budafok–2 borehole 393.0–454.6 m; Szentendre–2 borehole 626.0–817.0 m; Varbó–50 borehole 416.1–420.0 m; Cserépváralja–1 borehole 407.4–407.6 m; Eger Wind brickyard borehole 50.3–77.1 m; Alcsútdoboz–3 borehole 455.5–487.1 m.

Material

70 specimens

Stratigraphical range without Hungary

Czechoslovakia: Oligocene.

Stratigraphical range in Hungary

Priabonian–Upper Oligocene.

Cytherella mehesi BRESTENSKÁ, 1975

Pl. 2, figs 6–8.

1975. *Cytherella mehesi* n. sp. – BRESTENSKÁ, pp. 234–235, Pl. 2, figs 4–8.1982. *Cytherella* aff. *mehesi* BRESTENSKÁ, 1975 – MONOSTORI, pp. 50–51, Pl. 4, figs 4–7. (pars)1985. *Cytherella* aff. *méhesi* BRESTENSKÁ, 1975 – MONOSTORI, p. 166, Pl. 1, figs 3–4. (pars)*Remarks*

The form is rather variable (MONOSTORI, 1982, 1985) After investigation of the Eger material belonging to this species is obvious. See: remarks at *C. hyalina*.

Dimensions

carapaces L = 0.78–0.86 mm

H = 0.46–0.54 mm

L/H = 1.54–1.77

Occurrence

Kiscell–1 borehole 83.4 m; Budapest, Metro H–1 borehole 25.0–60.0 m; Budapest, Metro H–3 borehole 41.8–120.5 m; Budapest, Metro H–7 borehole 19.8–84.0 m; Budapest, Metro H–8 borehole 36.0 m; Budapest, Metro H–9 borehole 19.5–55.6 m; Budapest, Ibolya u. quarry 7.0 m; Budapest, SzOT–1 borehole 5.5 m; Budapest, SzOT–2 borehole 46.0–58.0; Budafok–2 borehole 362.3–447.1 m; Szentendre–2 borehole 746.0–1020.0 m; Varbó–50 borehole 423.7–530.3 m; Noszvaj, Síkfőkút quarry, sample 18; Eger Wind brickyard borehole 50.3–77.1 m; Alcsútdoboz–3 borehole 455.5–487.1 m.

Material

90 specimens.

Stratigraphical range without Hungary

Czechoslovakia: Oligocene

Stratigraphical range in Hungary

Priabonian–Upper Oligocene.

Cytherella transversa SPEYER, 1863 s. l.

Pl. 3, figs 1–4.

1863. *Cytherella transversa* n. sp. – SPEYER, p. 56, Pl. I, fig. 2.1941. *Cytherelloidea pestiensis* n. sp. – MÉHES, pp. 81–82, Pl. VII, figs 21–22, textfigs 18, 95, 105.1957. *Cytherella transversa* SPEYER, 1863 – KEIJ, p. 47, Pl. I, fig. 2.1961. *Cytherella transversa* SPEYER, 1863 – DELTEL, p. 17, Pl. II, figs 22–23.1963. *Cytherella transversa* SPEYER, 1863 – STCHÉPINSKY, p. XXX, Pl. I, figs 1–3.1969. *Cytherella transversa* SPEYER, 1863 – PIETRZENIUK, p. 13, Pl. I, figs 11–12.

1969. *Cytherella transversa* SPEYER, 1863 – SCHEREMETA, 1969, p. 45, Pl. I, figs 8–89.
 1969. *Cytherella transversa* SPEYER, 1863 – DUCASSE, p. 12, Pl. I, figs 11.
 1975. *Cytherella pestiensis* (MÉHES) – BRESTENSKÁ, pp. 382–383, Pl. 1, figs 1–9.
 1975. *Cytherella transversa* SPEYER, 1863 – FAUPEL, p. 64, Pl. 10, figs 5–6.
 1981. *Cytherella transversa* SPEYER, 1863 – DUCASSE, p. 175–176, Pl. II, figs 4–9 (forme „ovoide”), figs 10–11 (forme „pentagonale”), figs 12–14 (forme „inflexie”), fig. 15 (forme „hastée”).
 1982. *Cytherella pestiensis* (MÉHES, 1941) – MONOSTORI, pp. 48–49, Pl. III, figs 5–8.
 1985. *Cytherella (Cytherella) pestiensis* (MÉHES, 1941) – MONOSTORI, pp. 166–167, Pl. 1, figs 5–7.
 1985. *Cytherella transversa* SPEYER, 1863 – DUCASSE et al., Pl. 71, fig. 16.
 1988. *Cytherella* gr. *transversa* SPEYER, 1863 – BARBIN & GUERNET, pp. 215–216, Pl. 1, figs 4–5.
 1989. *Cytherella transversa* SPEYER, 1863 – KEEN, Pl. 2, fig. 7.

Remarks

This species has a large variability in shape, in the fine ornamentation and in the development of the posterior „ear” of the left valve (see MONOSTORI, 1982, 1985) The investigated materials is so close to *Cytherella transversa* SPEYER, 1863 (including the variable forms figured in the literature as *transversa*) that the species *pestiensis* is obviously a synonym of the *C. transversa* SPEYER, 1863 s. l.

We can see in the literature two group of specimens: the type form of *transversa* at SPEYER (1863) and specimens on scanning photos FAUPEL (1975) having flat and angular valves, and other forms having an asymmetric-lenticular form, similarly to materials of Hungary.

Dimensions

right valve	L = 0.74–0.78 mm H = 0.45–0.51 mm L/H = 1.53–1.66
left valve	L = 0.72–0.79 mm H = 0.38–0.42 mm L/H = 1.79–1.94
carapaces:	L = 0.79–0.83 mm H = 0.47–0.51 mm L/H = 1.63–1.65 W = 0.34–0.35 mm

Occurrence

Budapest, Metro H–7 borehole 29.0–94.0 m; Budapest, Metro H–7/1 borehole 37.4–69.5 m; Budapest, Metro H–8 borehole 18.0–36.0 m; Budapest, Metro H–9 borehole, 19.5–49.9 m; Budapest, Rókahegy sample; Budapest, Ibolya u. quarry 6.0 m; Budapest, SzOT–2 borehole 46.0 m; Budapest, SzOT–6 borehole 10.8–11.0 m; Budafok–2 borehole 362.3–429.2 m; Szentendre–2 borehole 1025.0–1026.0 m; Cserépváralfa–1 borehole 382.5–407.6 m; Varbó–50 borehole 433.6–439.5 m; Noszvaj, Síkfőkút quarry sample 18; Eger Wind brickyard borehole 50.3–73.1 m.

Material

133 specimens.

Stratigraphical range without Hungary

Germany: Upper Eocene–Oligocene, France: Eocene–Oligocene, The Netherlands: Oligocene, Belgium: Rupelian, Czechoslovakia: Oligocene.

Stratigraphical range in Hungary

Upper Eocene–Oligocene.

Cytherella (Cytherelloidea) cf. hieroglyphica (BOSQUET, 1852)

Remarks

Only 3 specimens, poorly preserved resembling this species

Occurrence

Budapest, Zugliget outcrop sample 3; Budapest, SzOT–4 borehole 54.0 m.

Materials

3 specimens.

Suborder Metacopa SYLVESTER-BRADLEY, 1967

Superfamily Healdiacea HARLTON, 1933

Family Saipanettidae MCKENZIE, 1968

Genus *Cardobairdia* VAN DEN BOLD, 1960

Cardobairdia boldi PIETRZENIUK, 1969

Pl. 3, fig. 5.

1969. *Cardobairdia boldi* n. sp. – PIETRZENIUK, p. 16, Pl. VII, figs 1–3, Pl. XVII, figs 7–8.

1982. *Cardobairdia hungarica* n. sp. – MONOSTORI, pp. 5–152, Pl. IV, f. 8–9.

1985. *Cardobairdia hungarica* MONOSTORI, 1982 – MONOSTORI, p. 168, Pl. 2, f. 1.

Remarks

Rare specimens are known from the Lower Oligocene Kiscell Clay Formation. After the revision of all material from the Eocene/Oligocene boundary sections of Hungary it appeared that this is a rather common species in the Upper Eocene Buda Marl Formation and its variability coincide with that of the *Cardobairdia boldi* PIETRZENIUK, 1969.

Dimensions

carapaces L = 0.41–0.50 mm
H = 0.44–0.27 mm
L/H = 0.71–2.05

Occurrence

Budapest, Metro H–2 borehole 17.9–19.3 m; Budapest, Metro H–3 borehole 59.6–61.6 m; Budapest, Metro H–7/1 borehole 50.5–75.0 m; Budapest, Metro H–9 borehole 53.5–55.6 m; Budapest, Ibolya u. quarry, 7.0 m; Cserépváralja–1 borehole 407.4–407.6 m.

Material

7 specimens

Stratigraphical range without Hungary

Germany: Eocene.

Stratigraphical range in Hungary

Priabonian–Lower Oligocene.

Suborder Podocopa SARS, 1866
Superfamily Bairdiacea SARS, 1866
Family Bairdidae SARS, 1888
Genus *Bairdia* MCCOY, 1844
Bairdia rupelica MONOSTORI, 1982
Pl. 3, fig. 6.

1982. *Bairdia rupelica* n. sp. – MONOSTORI, pp. 52–53, pl. V, f. 1–2.

1985. *Bairdia rupelica* MONOSTORI, 1982 – MONOSTORI, p. 170, Pl. 2, f. 6.

Remarks

This species was described after sporadic specimens from Lower Oligocene (Kiscell Clay Formation). The subsequent investigations demonstrated its presence in the Upper Eocene (Priabonian) beds of Buda Marl Formation.

Dimensions

carapaces L = 1.00–1.09 mm
H = 0.63–0.72 mm
L/H = 1.51–1.60

Occurrence

Budapest, Metro H–1 borehole 19.8–18.0 m; Budapest, Metro H–3 borehole 41.8–68.3 m; Budapest, Ibolya u. quarry 7.9 m; Budapest, SzOT–1 borehole 7.0 m; Budapest, SzOT–6 borehole 6.0–10.8 m; Cserépváralja–1 borehole 407.4–407.6 m.

Material

10 specimens.

Stratigraphical range in Hungary

Priabonian–Lower Oligocene.

Bairdia? sp 1.

Pl. 3, fig. 7.

Remarks

Low form with „bairdoid” outlines. The anterior outline is asymmetrical, the dorsal one first slight depressed than convex and continuously turns to the blunt posterior outline bending over at the lower 1/3 of the height. The ventral outline is slightly concave at about the half of the length. The surface is smooth.

Dimensions

carapace L = 0.81 mm

H = 0.42 mm

L/H = 1.93

Occurrence

Kiscell–1 borehole 83.4 m; Budapest, Ibolya u. quarry 7.9 m; Budapest, SzOT–1 borehole 7.0 m; Budapest, SzOT–6 borehole 10.8 m; Cserépváralja–1 borehole 407.4–407.6 m; Budapest, SzOT–2 borehole 58.0 m; Budapest, SzOT–4 borehole 54.0 m.

Material

12 specimens.

Stratigraphical range in Hungary

Priabonian–Lower Oligocene.

Genus *Cytheromorpha* HIRSCHMANN, 1909

Cytheromorpha subalpina dorsodepressa MONOSTORI, 1985

Pl. 4, figs 1–5.

1985. *Cytheromorpha subalpina dorsodepressa* n. ssp. – MONOSTORI, pp. 171–172.

Remarks

Specimens of the Hungarian material are wider and sometimes inflated posteriorly compared to type of the *subalpina* from Switzerland (SCHERER, 1964).

Dimensions

carapaces L = 0.38–0.41 mm

H = 0.21–0.22 mm

L/H = 1.94–1.98

W = 0.18–0.19 mm

Occurrence

Budapest, Kiscell–1 borehole 55.5–62.5 m; Budapest, Metro–3 borehole 36.0–37.0 m; Budapest; Zugliget outcrop samples 7; Kiseget, 1987 outcrop samples 2 and 3.

Material

42 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Superfamilia Cytheracea BAIRD, 1850

Familia Cytheridae BAIRD, 1850

Subfamilia Cytherinae BAIRD, 1850

Schizocythere? sp.1985. *Schizocythere?* sp. – MONOSTORI, p. 173.*Remarks*

Poorly preserved specimens, perhaps transported or resedimented.

Occurrence

Kiscell–1 borehole 57.5 m; Budapest, Ibolya u. quarry 1.2–7.9 m; Noszvaj, Síkfőkút quarry sample 18.

Material

5 specimens.

Schizocythere? sp. juv.1985. *Schizocythere* sp. juv. – MONOSTORI, p. 173.*Remarks*

Juvenile valves and carapaces, perhaps transported (there are no adult specimens).

Occurrence

Kiscell–1 borehole 89.5 m; Cserépváralja–1 borehole 240–265.6 m.

Material

6 specimens.

Genus *Paijenborchella* KINGMA, 1978
 Subgenus *Eopaijenborchella* KEIJ, 1966

Paijenborchella (Eopaijenborchella) sturovensis BRESTENSKÁ, 1975
 Pl. 4, figs 6–7.

1975. *Paijenborchella (Eopaijenborchella) sturovensis* n. sp. – BRESTENSKÁ, pp. 401–403, Pl. 9, f. 1–9.

1985. *Paijenborchella (Eopaijenborchella) sturovensis* BRESTENSKÁ, 1975 – MONOSTORI, pp. 73–174, Pl. 2, f. 9.

Remarks

2 specimens originate from Eger, Wind brickyard, where it was detected by BRESTENSKÁ (1975).

Dimensions

left valve L = 0.48 mm

H = 0.30 mm

L/H = 1.60

Occurrence

Eger, Wind brickyard borehole 71.5–77.1 m, Alcsútdoboz–3 borehole 455.5 m

Material

3 specimens.

Stratigraphical range without Hungary

Czechoslovakia: Oligocene.

Stratigraphical range in Hungary

Oligocene.

Familia Leptocytheridae HANAI, 1957

Genus *Callistocythere* RUGGIERI, 1953

Callistocythere sp.

Pl. 5, fig. 1.

1982. *Callistocythere* sp. – MONOSTORI, p. 67, Pl. VII, f. 4.

1985. *Callistocythere* sp. – MONOSTORI, pp. 174–175.

Remarks

The sporadical specimens have poor preservation, probably transported material.

Occurrence

Kiscell-1 borehole 57.5 m; Budapest, Metro H-3 borehole 195.0 m; Városmajor-1 borehole 96.7–97.8 m.

Material

3 specimens.

Familia Cytherideidae SARS, 1925
Subfamilia Cytherideinae SARS, 1925
Genus *Eucytheridea* BRONSTEIN, 1930
Eucytheridea reticulata GOERLICH, 1953
Pl. 5, figs 2–7, Pl. 6, figs 1–2.

1953. *Cytheridea (Eucytheridea) reticulata* n. sp. – GOERLICH, pp. 137–138, Pl. 5, figs 40–42.

1982. *Eucytheridea reticulata* GOERLICH, 1953 – MONOSTORI, pp. 67–68, Pl. VII, figs 5–7 (cum syn).

1985. *Eucytheridea reticulata* GOERLICH, 1953 – MONOSTORI, pp. 175–176, Pl. 2, fig. 10.

Remarks

The large variation of the shape and ornamentation (the length of the straight dorsal part, the length/height ratio of the valves, the sharpness of the reticulation, the dimension of the pits in the reticulation, the degrees of the convergency of dorsal and ventral outlines) are visible on the SEM photos.

Dimensions

right valves L = 0.67–0.80 mm (adult) 0.53–0.58 mm (juvenile),
H = 0.38–0.39 mm (adult) 0.33–0.34 mm (juvenile),
L/H = 1.78–1.85 (adult), 1.61–1.69 (juvenile)

carapaces L = 0.68–0.74 mm
H = 0.38–0.40 mm
L/H = 1.79–1.85
W = 0.31–0.34 mm

Occurrence

Kiscell-1 borehole 59.5–62.5 m; Budapest, Metro H-3 borehole 195.0 m; Budapest, Metro H-12 borehole 32.0–33.0 m; Budapest, Ibolya u. quarry 4.4 m; Budapest, Zugliget outcrop sample 3; Budapest, Törökvész-6 borehole 4.0–6.5 m; Budapest, Törökvész-8 borehole 3.5–5.5 m; Budapest, Törökvész-13 borehole 2.5 m; Cserépváralja-1 borehole 336.8–337.0 m; Kiséged road cut samples 2a, 3a, 3b, 3, 13; Kiséged, 1987 outcrop samples 1, 2, 3.

Material

333 specimens.

Stratigraphical range without Hungary

Germany: Rupelian, Switzerland: Rupelian.

Stratigraphical range in Hungary

Lower Oligocene.

Genus *Cytheridea* BOSQUET, 1852

Cytheridea ex gr. *mülleri* (VON MÜNSTER, 1830)

Pl. 6, fig. 3.

Remarks

The single carapace are similar to *C. mülleri truncatula* GOERLICH, 1953, the height is shifted backward.

Dimensions

right valve L = 0.67 mm
 H = 0.36 mm
 L/H = 1.86

Occurrence

Budafok–2 borehole 425.3–449.6 m; Szentendre–2 borehole 1070.0 m.

Material

3 specimens.

Stratigraphical range in Hungary

Oligocene.

Cytheridea ex gr. *pernota* OERTLI et KEIJ, 1956

Pl. 6, fig. 4.

Remarks

The outlines are close to this species. The ornamentation is somewhat reduced.

Dimensions

left valve L = 0.93 mm
 H = 0.50 mm
 L/H = 1.86

Occurrence

Varbó–50 borehole 541.7–543.2 m.

Material

1 specimen.

Genus *Miocyprideis* KOLLMANN, 1960*Miocyprideis rara* (GOERLICH, 1953)

Pl. 6, figs 5–8, Pl. 7, fig. 1.

1953. *Cyprideis? rara* n. sp. – GOERLICH, pp. 130–131, T. 1., f. 1.1957. *Cyprideis rara* GOERLICH – GOERLICH, p. 78,1975. *Miocyprideis rara* (GOERLICH) – BRESTENSKÁ, p. 398, T. 5, f. 1–6.1982. *Miocyprideis rara derupta* n. ssp. – MONOSTORI, pp. 36–37, Pl. IX, figs 8–9.1985. *Miocyprideis rara* (GOERLICH, 1953) – MONOSTORI, pp. 182–183, Pl. 3, f. 9–10, Pl. 4., f. 1.*Remarks*

In MONOSTORI (1985) the large variability of the species in several Oligocene sections is described. In Hárshegy Sandstone Formation an ecological variety is present with circummarginal break of valves, named in MONOSTORI (1982) as subspecies *derupta*.

Dimensions

carapaces L = 0.59–0.65 mm

H = 0.31–0.34 mm

L/H = 1.74–1.97

*Occurrence*Pilisszentkereszt Sz 1–74 section samples g, h, i, i₂, j.*Material*

321 specimens.

Stratigraphical range without Hungary

Germany: Rupelian; Switzerland: Rupelian.

Stratigraphical range in Hungary

Oligocene.

Genus *Cyamocytheridea* OERTLI, 1956*Cyamocytheridea punctatella* (BOSQUET, 1852)

Pl. 7, figs 2–3.

1852. *Bairdia punctatella* n. sp. – BOSQUET, p. 26, Pl. 1, fig. 10.1985. *Cyamocytheridea punctatella* (BOSQUET, 1852) – MONOSTORI, pp. 180–181, Pl. 3, fig. 6.
(cum syn)

Remarks

The shape of valves with sporadic pores are characteristic for this species although the preservation is poor.

Dimensions

carapace L = 0.62 mm
H = 0.32 mm
L/H = 1.94
W = 0.30 mm

Occurrence

Pilisszentkereszt Sz 1–74 section, samples i, i₂

Material

2 specimens.

Stratigraphical range without Hungary

France: Stampian–Aquitania; Switzerland: Rupelian–Chattian; Germany: Rupelian; Czechoslovakia: Egerian.

Stratigraphical range in Hungary

Oligocene.

Genus *Hemicyprideis* MALZ et TRIEBEL, 1970

Hemicyprideis anterocostata MONOSTORI, 1982

Pl. 7, figs 4–7.

1982. *Hemicyprideis? anterocostata* n. sp. – MONOSTORI, pp. 32–34., Pl. I., f. 2.

Remarks

Characteristic are the „frame-like” ornamental elements in lateral view and the large dimensions compared to similar *H. helvetica*. Variations are described in MONOSTORI (1982).

Dimensions

carapaces L = 0.90–0.98 mm
H = 0.46–0.54 mm
L/H = 1.81–1.96

Occurrence

Pilisszentkereszt Sz 1–74 section samples h, i, i₂, j.

Material

14 specimens.

Stratigraphical range in Hungary
Lower Oligocene.

Hemicyprideis helvetica (LIENENKLAUS, 1895)

Pl. 7, fig. 8, Pl. 8, figs 1–4.

1895. *Cytheridea mülleri* var. *helvetica* n. var. – LIENENKLAUS, p. 26, Pl. II, fig. 6.
 1970. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – MALZ et TRIEBEL p. 13, pl. 13, figs 102–105.
 1972. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – CARBONNEL, Pl. IV, f. 11–12.
 1972. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – KEEN, Pl. 52, f. 11–12.
 1972. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – DOEBL & SONNE, p. 72, Pl. 14, f. 12 a, c.
 1978. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – MALZ, Pl. 1, f. 1–2.
 1982. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – MONOSTORI, pp. 34–35, Pl. I, figs 3–5. (cum syn.)
 1983. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – JIŘÍČEK, Pl. I, f. 1.
 1985. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – MONOSTORI, pp. 181–182, Pl. 3, figs 7–8.
 1985. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – DUCASSE et al., Pl. 76, f. 15.
 1992. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – APOSTOLESU, GUERNET, p. 108, Pl. 2, f. 1, 4.
 1993. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – OLLIVIER–PIERRE et al., Pl. IV, f. 3.
 1995. *Hemicyprideis helvetica* (LIENENKLAUS, 1895) – DUCASSE, pp. 117–119, Pl. 3, f. 1–7.

Remarks

The ornamental elements are mainly well-distinct knobs and the dimensions are small compared to similar *H. anterocostata*. Variations are described in MONOSTORI (1982).

Dimensions

carapaces L = 0.59–0.68 mm

H = 0.32–0.35 mm

L/H = 1.80–2.06

Occurrence

Pilisszentkereszt Sz 1–74 section samples g, h, i, i₂, j.

Material

372 specimens.

Stratigraphical range without Hungary

France: Oligocene; Belgium: Tongrian–Rupelian; Netherlands: Upper Tongrian; Germany: Chattian; Switzerland: Rupelian–Chattian; Czechoslovakia: Kiscellian–Egerian; Ukraine: Oligocene.

Stratigraphical range in Hungary

Oligocene.

Hemicyprideis parvula MALZ et TRIEBEL, 1970
Pl. 8, figs 5–8.

1970. *Hemicyprideis parvula* n. sp. – MALZ et TRIEBEL, pp. 11–12, Pl. 6, figs 39–44.

1982. Cytherideinae cf. *Hemicyprideis parvula* MALZ et TRIEBEL, 1970 – MONOSTORI, pp. 35–36, Pl. I, f. 6–8. (cum syn.)

Remarks

There are some specimens in Pilisszentkereszt outcrop and in Városmajor–1 borehole having shape characteristic for *Hemicyprideis olmensis* MALZ & TRIEBEL, 1970 (the straight middle part of the dorsal outline slopes moderately rather than breaking abruptly). There is a rather great variation of the outline in our material, so I think *olmensis* only is a morpha of the species *parvula*.

Dimensions

carapaces L = 0.84–0.92 mm

H = 0.40–0.47 mm

L/H = 1.81–2.10

Occurrence

Pilisszentkereszt Sz 1–74 section samples g, h, i, i₂, j; Budapest, Városmajor–1 borehole 97.8–98.5 m.

Material

73 specimens.

Stratigraphical range without Hungary

Germany: Sannoisian.

Stratigraphical range in Hungary

Lower Oligocene.

Subfamilia Schulerideinae MANDELSTAM, 1960
Genus *Schuleridea* SWARTZ et SWAIN, 1946

Schuleridea rauracica OERTLI, 1956
Pl. 9, figs 1–2.

1956. *Schuleridea rauracica* n. sp. – OERTLI, pp. 47–50, Pl. 5, figs 110–123.

1982. *Schuleridea rauracica* OERTLI, 1956 – MONOSTORI, pp. 37–38, Pl. I, figs 9–13. (cum syn.)

Remarks

Shape and ornamentation characteristic for this species.

Dimensions

carapaces L = 0.80–0.87 mm
H = 0.51–0.54 mm
L/H = 1.57–1.61

Occurrence

Pilisszentkereszt Sz 1–74 section samples h, i₂, j.

Material

7 specimens.

Stratigraphical range without Hungary

France: Stampian; Germany: Rupelian; Switzerland: Rupelian.

Stratigraphical range in Hungary

Lower Oligocene.

Schuleridea rauraciformis MONOSTORI, 1985

Pl. 9, figs 3–5.

1985. *Schuleridea rauraciformis* n. sp. – MONOSTORI, pp. 184–185., Pl. 4., fig. 3.

Remarks

On some scanning photos very dense and weak minor pits are visible on the surface of valves contrasted with the large, deep pits of *Sch. rauracica*.

Dimensions

carapaces L = 0.98–1.11 mm
H = 0.6–0.68 mm
L/H = 1.48–1.62
W = 0.47 mm

Occurrence

Budapest, Városmajor–1 borehole 96.7–98.5 m; Budapest, Zugliget outcrop sample N°3, Kiséged road cut section samples 3b, 12; Kiséged, 1987 outcrop sample 1.

Material

19 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Genus *Cuneocythere* LIENENKLAUS, 1894
Subgenus *Cuneocythere* LIENENKLAUS, 1894

Cuneocythere (Cuneocythere) marginata anterodepressa MONOSTORI, 1982
Pl. 9, figs 6–7, Pl. 10, figs 1–3.

1982. *Cuneocythere (Cuneocythere) marginata anterodepressa* n. sp. – MONOSTORI, pp. 68–70, Pl. VII, figs 8–10.
1985. *Cuneocythere (Cuneocythere) marginata anterodepressa* MONOSTORI, 1982 – MONOSTORI, p. 185, Pl. 4, f. 4–6.
1985. *Cuneocythere (Cuneocythere) marginata marginata* (LIENENKLAUS, 1895) – MONOSTORI, p. 186.

Remarks

A few specimens of Zugliget outcrop show somewhat stronger anterior ornamentation. These rare transitional forms in the material raise the question: subspecies or ecological morphs?

Dimensions

right valve	L = 0.57 mm H = 0.28 mm L/H = 2.00
left valves	L = 0.55–0.61 mm H = 0.33–0.40 mm L/H = 1.35–1.71

Occurrence

Kiscell–1 borehole 51.6–62.5 m; Budapest Metro H–3 borehole 193.0–195.0 m; Budapest Metro H–11/a borehole 59.0–61.0 m; Budapest Metro H–13 borehole 36.0–37.0 m; Budapest Törökvész–6 borehole 2.5–4.5 m; Budapest Törökvész–8 borehole 2.5–3.5 m; Budapest Törökvész–13 borehole 2.0–2.5 m; Budapest Városmajor–1 borehole 96.7–98.5 m; Budapest Zugliget outcrop sample 7; Kiséged road cut section samples 2a, 3a, 3b, 4, 12, 13; Kiséged 1987 section samples 1, 2, 3.

Material

291 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Cuneocythere (Cuneocythere) truncata LIENENKLAUS, 1894
Pl. 10, fig 4.

1894. *Cuneocythere truncata* n. sp. – LIENENKLAUS, p. 260, T. XVIII, F. 6.
1985. *Cuneocythere truncata* LIENENKLAUS, 1894 – MONOSTORI, pp. 186–188, Pl. 4, f. 7. (cum syn.)

Remarks

About the species-validity see MONOSTORI (1985).

Dimensions

left valve L = 0.48 mm
 H = 0.31 mm
 L/H = 1.55

right valve L = 0.51 mm
 H = 0.27 mm
 L/H = 1.89

Occurrence

Pilisszentkereszt Sz 1–74 section sample H; Szentendre–2 borehole 1071.0 m;
Alcsútdoboz–3 borehole 373.0 m.

Material

7 specimens.

Stratigraphical range without Hungary

Germany: Rupelian–Chattian, Czechoslovakia: Kiscellian–Egerian.

Stratigraphical range in Hungary

Oligocene.

Familia Krithidae MANDELSTAM, 1960

Genus *Krithe* BRADY, CROSSKEY & ROBERTSON, 1874

Krithe papillosa (BOSQUET, 1852)

Pl. 10, figs 5–7.

1852. *Cytheridea papillosa* n. sp. – BOSQUET, p. 42, Pl. III, f. 5.

1982. *Krithe papillosa* (BOSQUET, 1852) – MONOSTORI, pp. 138–140, Pl. I, fig. 14. (cum syn.)

Remarks

Description of the materials in MONOSTORI (1982).

Dimensions

carapaces L = 0.71–0.74 mm
 H = 0.31–0.39 mm
 L/H = 2.24–1.95

Occurrence

Pilisszentkereszt Sz 1–74 section samples h, i, i₂, j.

Material

90 specimens.

Stratigraphical range without Hungary

Germany: Burdigalian; France: Lutetian?, Stampian–Burdigalian; Czechoslovakia: Egerian; Ukraine: Oligocene.

Stratigraphical range in Hungary

Lower Oligocene.

Krithe pernoides (BORNEMANN, 1855)

Pl. 11, figs 1–6.

1855. *Bairdia pernoides* n. sp. – BORNEMANN, Pl. XX., figs 7–8.1982. *Krithe pernoides* (BORNEMANN, 1855) – MONOSTORI, pp. 55–56, Pl. V, figs 4–10 (cum syn.)1985. *Krithe pernoides* (BORNEMANN, 1855) – MONOSTORI, pp. 189–190, Pl. 4, f. 9.*Remarks*

The frequent change of the L/H is conspicuous.

Dimensions

right valves L = 0.63–0.72 mm
 H = 0.27–0.34 mm
 L/H = 2.10–2.30

left valves L = 0.63–0.77 mm
 H = 0.30–0.38 mm
 L/H = 2.03–2.12

carapaces L = 0.47–0.66 mm
 H = 0.26–0.33 mm
 L/H = 1.82–2.43
 W = 0.20–0.32 mm

Occurrence

Kiscell–1 borehole 83.4 m; Budapest, Metro H–1 borehole 14.8–60.0 m; Budapest, Metro H–3 borehole 56.8–102.1 m; Budapest, Metro H–5/1 borehole 42.0–47.1 m; Budapest, Metro H–7 borehole 22.0–84.0 m; Budapest, Metro H–7/1 borehole 26.0–75.0 m; Budapest, Metro H–8/1 borehole 20–32.0 m; Budapest, Metro H–9 borehole 19.5–59.8 m; Budapest, Metro H–11 borehole 23.5 m; Budapest, Ibolya u. quarry 1.2 m; Budapest, SzOT–1 borehole 7.0 m; Budapest, SzOT–2 borehole 46.0 m; Budapest, SzOT–4 borehole 54.0 m; Szentendre–2 borehole 700.0–1200.0 m; Varbó–50 borehole 445.0–451.0 m; Cserépváralja–1 borehole 211.0–286.0 m; Eger Wind brickyard borehole 66.8–73.1 m; Kiséged manganese clay samples 1, 4; Szőlöske outcrop sample 13.

Material

217 specimens.

Stratigraphical range without Hungary

Germany: Upper Eocene–Lower Miocene; Belgium, Netherlands: Rupelian; Italy: Miocene; Ukraine: Oligocene.

Stratigraphical range in Hungary

Middle Eocene–Upper Oligocene.

Krithe sp. 1

Pl. 11, fig. 7.

Remarks

Short form with broadly and asymmetrically rounded posterior end. The ventral outline nearly straight, the dorsal one broadly rounded. Similar to *Microcytherura antiqua* n. sp. in MÉHES (1941) with its outlines.

Dimensions

carapace L = 0.57 mm

H = 0.30 mm

L/H = 1.90

Occurrence

Budapest, Metro H-7/1 borehole 54.5–55.5 m; Budapest, Metro H-9 borehole 29.4–31.4 m; Szentendre-2 borehole 1068.0 m.

Material

3 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Krithe sp. 2

Pl. 12, figs 1–2.

Remarks

Forms, similar to *bartonensis* or *rutoti* with their outlines, but less acuted posteriorly.

Occurrence

Eger, Wind brickyard borehole 50.3–77.1 m.

Material

11 specimens.

Stratigraphical range in Hungary
Lower Oligocene.

Parakrithe costatomarginata MONOSTORI, 1982
Pl. 12, fig. 3.

1982. *Parakrithe costatomarginata* n. sp. – MONOSTORI, pp. 54–55, Pl. V, fig. 3.

Remarks

According to new specimens only the anterior depressed area and the „rib” originated so are constant, the posterior marginal elevation is less characteristic.

Dimensions:

carapace L = 0.59 mm
 H = 0.20 mm
 L/H = 2.70

Occurrence

Budapest, Metro H–3 borehole 56.8–59.0 m; Kiséged, manganiferous clay sample 4.

Material

5 specimens.

Stratigraphical range in Hungary
Lower Oligocene.

Parakrithe sp. 1
Pl. 12, figs 4–5.

Remarks

This species is characterized by broadly rounded asymmetrical posterior end and deep and asymmetrical ventral embayment at 0.45 of the length.

Dimensions

carapace L = 0.54 mm
 H = 0.20 mm
 L/H = 2.70

Occurrence

Budapest, Metro H–7 borehole 94.0–99.0 m; Budapest, Metro H–8 borehole 18.0 m; Kiséged manganiferous clay sample 4.

Material

4 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Familia Trachyleberididae SYLVESTER-BRADLEY, 1948
Subfamilia Trachyleberidinae SYLVESTER-BRADLEY, 1948
Genus *Trachyleberis* BRADY, 1898

Trachyleberis cf. *spinosa* (LIENENKLAUS, 1900)

Pl. 12, fig. 6.

1982. *Trachyleberis* cf. *spinosa* (LIENENKLAUS, 1900) – MONOSTORI, p. 56.*Remarks*

The single left valve has shape of this species with remains of dense, unregular spines.

Dimensions

carapace L = 0.80 mm

H = 0.42 mm

L/H = 1.90

Occurrence

Budapest, Metro H-3 borehole 99.8–102.1 m; Budapest, Metro H-9 borehole 19.5–20 m; Budapest, SzOT-1 borehole 16.0 m.

Material

2 specimens.

Genus *Costa* NEVIANI, 1928*Costa hermi* WITT, 1967

Pl. 12, fig. 7, Pl. 13, figs 1–7, Pl. 14, fig. 1.

1967. *Costa hermi* n. sp. – WITT, p. 30, Pl. I, figs 21–26.1982. *Costa hermi* WITT, 1967 – MONOSTORI, pp. 57–58, Pl. V, figs 11–12, Pl. VI, fig. 1. (cum syn.)1982. *Costa* cf. *hermi* WITT, 1967 – MONOSTORI, pp. 40–41, Pl. II, fig. 1.1985. *Costa* cf. *hermi* WITT, 1967 – MONOSTORI, p. 192.*Remarks*

The large variability is discussed in MONOSTORI (1982) *Costa* cf. *hermi* in MONOSTORI (1982) according to new specimens fits into the variability detected at Oligocene materials of Hungary.

Dimensions

L = 0.81 – 0.94 mm

H = 0.42–0.51 mm

L/H = 1.84–1.96

Occurrence

Budapest, Metro H–1 borehole 11.8–60.0 m; Budapest, Metro H–2 borehole 32.7–34.6 m; Budapest, Metro H–3 borehole 19.5–68.3 m; Budapest, Metro H–7 borehole 24.0–99.0 m; Budapest, Metro H–7/1 borehole 37.4–42.0 m; Budapest, Metro H–8 borehole 18.0 m; Budapest, Metro H–9 borehole 47.4–59.8 m; Budapest, Róka hegy; Budafok–2 borehole 367.5–370.5 m; Solymár–72 borehole 297.4–298.0 m; Solymár brickyard outcrop sample 17; Pilisszentkereszt Sz 1–74 section samples g, i₂; Szentendre–2 borehole 626.0–1100.0 m; Esztergom 123 borehole 199.0–410.0 m; Varbó–50 borehole 394.1–494.6 m; Eger Wind brickyard borehole 50.3–80.3 m; Szőlöske outcrop samples 11, 14; Alcsútdoboz–3 borehole 504.0 m.

Material

88 specimens.

Stratigraphical range without Hungary

Germany: Chattian–Aquitainian; Czechoslovakia: Kiscellian–Egerian.

Stratigraphical range in Hungary

Priabonian–Upper Oligocene.

Genus *Agrenocythere* BENSON, 1972

Agrenocythere ordinata (DELTEL, 1961)

Pl. 14, figs 2–4.

1961. *Bradleya ordinata* n. sp. – DELTEL, pp. 159–161, pl. 15, figs 262–264.

1964. *Bradleya ordinata* n. sp. – DELTEL, pp. 187–189, figs 126–127.

1977. *Agrenocythere bensoni* n. sp. – POKORNÝ, pp. 384–390, text–figs 1–5, Pl. 1, figs 1–3.

1982. *Agrenocythere aculeataformis* n. sp. – MONOSTORI, pp. 58–60, Pl. VI, fig. 2.

1985. *Agrenocythere bensoni* POKORNÝ, 1977 – MONOSTORI, pp. 191–192, Pl. 5, f. 1–2.

1985. *Agrenocythere ordinata* (DELTEL, 1964) – DUCASSE et al., p. 286, Pl. 79, figs 3–5.

1996. *Agrenocythere ordinata* (DELTEL, 1961) – MONOSTORI, p. 49, Pl. 17, figs 7–8, Pl. 18, figs 1–3.

Remarks

Description details in MONOSTORI (1982).

Dimensions (carapace)

L = 0.98 mm

H = 0.53 mm

L/H = 1.85

Occurrence

Budapest, Metro H-7 borehole 22.0–36.0 m; Cserépváralja-1 borehole 407.4–407.6 m; Eger, Wind brickyard borehole 75.4–77.1 m.

Material

5 specimens.

Stratigraphical range without Hungary

France: Eocene–Oligocene; Czechoslovakia: Lower–Middle Eocene, Lower Oligocene?

Stratigraphical range in Hungary

Bartonian–Lower Oligocene.

Genus *Pterygocythereis* BLAKE, 1933

Pterygocythereis cf. *ceratoptera* (BOSQUET, 1852)
Pl. 14, figs 5–7.

Remarks

Poorly preserved specimens. The outlines and the visible ornamental elements are corresponding to that of the most figures in the literature (including BRESTENSKÁ, 1975 from Eger, Hungary).

Dimensions

carapace L = 0.92–0.83 mm
H = 0.41–0.48 mm
L/H = 1.91–2.07
W = 0.42 mm

Occurrence

Pilisszentkereszt Sz 1–74 section samples g, h, i, i₂, j; Szentendre-2 borehole 809.0 m.

Material

26 specimens.

Stratigraphical range in Hungary

Oligocene.

Pterygocythereis n. sp?

Pl. 15, figs 1–2.

Remarks

Poorly preserved specimens. The form has big and blunt anteromarginal spines, two to four, also big and blunt dorsal spines, rare posterior spines (the dorsal and ventral terminal ones are longer), the ventral keel is well developed in the median part of the length, with some – mainly indistinct – spines. The anteromarginal and ventral keels are disconnected, the anteromarginal keel runs somewhat below the ventral keel. The main part of the lateral surface is smooth.

Dimensions

carapace L = 1.17–1.18 mm

H = 0.58 mm

L/H = 2.02–2.03

Occurrence

Budapest, Törökvész–8 borehole 3.0–7.0 m; Kiscell–1 borehole 59.6 m; Kiseged 1987 outcrop, sample 1.

Material

20 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Genus *Echinocythereis* PURI, 1954*Echinocythereis ligula* LIENENKLAUS, 1896

Pl. 15, fig. 3.

1896. *Cythere ligula* n. sp. – LIENENKLAUS, pp. Pl. II, fig. 3.

1956. *Echinocythereis* ? *ligula* (LIENENKLAUS, 1896) – OERTLI, pp. 81–82, Pl. 10, figs 281–284, Pl. 11, figs 285–290.

1969. *Echinocythereis ligula* (LIENENKLAUS, 1896) – SCHEREMETA, pp. 195–196, Pl. XVIII, fig. 12.

1982. *Echinocythereis* aff. *ligula* (LIENENKLAUS, 1896) – MONOSTORI, pp. 41–42, Pl. II, fig. 2.

Remarks

After the new scanning photo the species determination is sure.

Dimensions

carapace L = 0.81 mm

H = 0.41 mm

L/H = 1.98

Occurrence

Pilisszentkereszt Sz1–74 section sample h.

Material

1 specimen.

Stratigraphical range without Hungary

Germany: Rupelian; Switzerland: Rupelian; Ukraine: Oligocene.

Stratigraphical range in Hungary

Lower Oligocene.

Genus *Henryhowella* PURI, 1957

Henryhowella asperrima (REUSS, 1850)

Pl. 15, figs 4–7, Pl. 16, figs 1–3.

1850. *Cypridina asperrima* n. sp. – REUSS, p. 74., pl. X., fig. 5.

1981. *Henryhowella asperrima* (REUSS, 1850) – MONOSTORI, pp. 195–196, Pl. 5, figs 5–6.

Remarks

The variability of the material of Hungary is described in MONOSTORI (1982, 1985).

Dimensions

carapace L = 0.67–0.72 mm
H = 0.37–0.39 mm
L/H = 1.54–1.97
W = 0.32–0.33 mm

instars L = 0.42–0.59 mm
H = 0.37–0.39 mm
L/H = 1.54–1.97

Occurrence

Kiscell–1 borehole 83.4 m; Budapest, Metro H–1 borehole 56.8–60.0 m; Budapest, Metro H–3 borehole 99.8–102.1 m; Budapest, Metro H–5/1 borehole 28.0–42.0 m; Budapest, Metro H–7 borehole 19.8–108.4 m; Budapest, Metro H–7/1 borehole 33.3–55.5 m; Budapest, Metro H–9 borehole 19.5–59.8 m; Budapest, Metro H–11 borehole 23.5 m; Szentendre–2 borehole 809.0 m; Varbó–50 borehole 396–530.0 m; Cserépváralja–1 borehole 265.4–387.7 m; Eger Wind brickyard borehole 50.3–54.2 m; Szőlöske outcrop samples 11, 13, 14.

Material

95 specimens.

Stratigraphical range without Hungary

Germany: Oligocene–Miocene; France: Oligocene–Pliocene; Italy: Miocene;
Czechoslovakia: Oligocene–Miocene.

Stratigraphical range in Hungary

Bartonian–Upper Oligocene.

Subfamilia Buntoniinae APOSTOLESCU, 1961

Genus *Protobuntonia* GREKOFF, 1954

Protobuntonia sublatissima arcuatocosta (BRESTENSKÁ, 1975)

Pl. 16, figs 4–5.

1975. *Buntonia sublatissima arcuatocosta* n. ssp – BRESTENSKÁ, pp. 395–396, Pl. 9, figs 1–8.

1982. *Buntonia sublatissima arcuatocosta* BRESTENSKÁ, 1975 – MONOSTORI, pp. 62–63, Pl. VI, figs 6–7.

Remarks

The „sharpness” of the reticulation is variable.

Dimensions

carapaces L = 0.46–0.51 mm

H = 0.31–0.34 mm

L/H = 1.48–1.50

Occurrence

Budapest, Metro H–3 borehole 96.8–99.8 m; Budapest, Metro H–9 borehole 53.5–55.6 m; Eger, Wind brickyard borehole 73.1–73.6 m.

Material

5 specimens.

Stratigraphical range without Hungary

Czechoslovakia: Oligocene.

Stratigraphical range in Hungary

Oligocene.

Subfamilia Campylocytherinae PURI, 1960

Genus *Leguminocythereis* HOWE et LAW, 1936

Leguminocythereis sorneana OERTLI, 1956

Pl. 16, fig. 6.

1956. *Leguminocythereis sorneana* n. sp. – OERTLI, pp. 91–93, Pl. 12, figs 320–337.

1975. *Leguminocythereis sorneana* OERTLI, 1956 – DOEBL, SONNE, pp. 144–145, Pl. 3, figs 18a, c
non 1980. *Leguminocythereis sorneana* OERTLI, 1956 – OLTEANU, pl. VI, fig. 11.
1982. *Leguminocythereis sorneana* OERTLI, 1956 – MONOSTORI, pp. 42–43, Pl. II, fig. 3.

Dimensions

carapace L = 1.12 mm
H = 0.54 mm
L/H = 2.07

Occurrence

Pilisszentkereszt Sz 1–74 section sample i.

Material

1 specimen.

Stratigraphical range without Hungary

Switzerland: Rupelian; Germany: Rupelian.

Stratigraphical range in Hungary

Lower Oligocene.

Leguminocythereis ? cellulataformis n. sp.

Pl. 16, fig. 7, Pl. 17, fig. 1.

1982. *Leguminocythereis* ex gr. *sorneana* OERTLI, 1956 – MONOSTORI, 1985, pp. 196–197, Pl. 5, figs 7–8.

Derivatio nominis

After the name of the similar species *L. cellulata* DUCASSE (1963).

Holotypus

Carapace.

Locus typicus

Kiseged road cut.

Stratum typicum

Kiscellian Tard Clay Formation, sample 12.

Diagnosis

The ornamentation is distinct and uniform polygonal network.

Description

The anterior outline of the left valves is asymmetrical, its ventral radius is smaller than the dorsal one. At 0.2 of the length the anterior outline connected with $\sim 120^\circ$ angle

to the straight dorsal outline abrupted between 0.6 and 0.8 of length by the dorsal swelling. The posterior outline begins after a $\sim 100^\circ$ break, its upper part is concave, lower part is convex with blunt denticles. The ventral outline nearly straight.

Ornamentation: distinct polygonal network covers the surface. It is obviously ordered only near the anterior and ventral margin. There is a blunt knot at the cardinal angle. There are ventral and posterodorsal swellings. The flat posterior end is nearly smooth. The right valve is very similar.

Dimension (carapaces)

L = 0.60–1.10 mm

H = 0.36–0.64 mm

L/H = 1.66–2.23

Variations

There are some more elongated specimens (perhaps males). Variable is the appearance of the ornamentation on the posterior end of the valves, the position and angle of the anterior-dorsal contact and the cardinal angle may be more or less protruding.

Comparison

The ornamentation and the shape of the carapace is not analogous those of the *L. sorneana*, as was believed in MONOSTORI (1982). Much more similar form is *L. cellulata* DUCASSE (1963), but details of the ornamentation differ.

Occurrence

Budapest, Zugliget outcrop sample 3; Kiséged road cut section, samples 3a, 12.

Material

13 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Familia Hemicytheridae PURI, 1953
Subfamilia Hemicytherinae PURI, 1953
Genus *Megahemicythere* WITT, 1967

Megahemicythere oertlii WITT, 1967
Pl. 17, figs 2–6.

1967. *Megahemicythere oertlii oertlii* n. sp. et ssp. – WITT, p. 69, Pl. 6, figs 9–12.
1985? *Megahemicythere oertlii* WITT, 1967 – MONOSTORI, p. 199.

Remarks

Most of the specimens have more reduced ornamentation as the type material of WITT (1967): they have practically smooth lateral surface. Characteristic is the sinuous dorsal outline and the blunt ventral swelling.

Dimensions

carapaces L = 1.24–1.42 mm
H = 0.76–0.79 mm
L/H = 1.59–1.82
W = 0.66 mm

Occurrence

Budapest, Városmajor–1 borehole 96.7–97.8 m; Budapest, Törökvész–8 borehole 3.5 m; Kiséged, 1987 outcrop samples 1, 2, 3; Kiséged road cut section samples 2a, 3a, 3d, 12.

Material

112 specimens.

Stratigraphical range without Hungary

Germany: Rupelian.

Stratigraphical range in Hungary

Lower Oligocene.

Pokornyyella? sp. 1

Pl. 17, fig. 7.

Remarks

The dorsal and ventral outlines are nearly parallel and nearly straight. The anterior outline is asymmetrical, it turns into the uneven dorsal outline at $\frac{1}{4}$ of the length. The dorsal part of posterior outline after a perpendicular break at the 0.8 of the length is concave, the lower part is convex. They form a narrow caudal end near the ventral level. The ventral outline is undulate. The lateral surface is covered by a dense and irregular fine reticulation, around the wide depressive anterior-anterolateral parts with hardly visible ribs perpendicular to the margin. The caudal end holds some radial swellings. At the cardinal angle there is an elongated swelling and at the posterodorsal break a more distinct knot. This form is most close to genus *Pokornyyella*, but I have not found similarly ornamented forms in the literature.

Dimensions

carapace L = 0.73 mm
H = 0.39 mm
L/H = 1.87

Occurrence

Budapest, Városmajor–1 borehole 97.8–98.5 m.

Material

1 specimen.

Stratigraphical range in Hungary

Lower Oligocene

Subfamilia Thaerocytherinae HAZEL, 1967

Genus *Grinioneis*, LIEBAU, 1975

Grinioneis sp.

Pl. 18, fig. 1.

Remarks

Damaged carapace with characters of this genus.

Occurrence

Budapest, Városmajor–1 borehole 96.7–97.8 m.

Material

1 specimen.

Genus *Hornibrookella* MOOS, 1965

Hornibrookella ex gr. *macropora* (BOSQUET, 1852)

Pl. 18, fig. 2.

Remarks

The ornamentation and outline of the specimen figured in this work obviously points at the *macropora* group.

Dimensions

carapace L = 0.80 mm

H = 0.48 mm

L/H = 1.67

Occurrence

Budapest, Ibolya u. quarry 1,2–9.9 m.

Material

2 carapaces.

Genus *Bosquetina* KEIJ, 1957

Bosquetina kiségedense n. sp.

Pl. 18., figs 3–6.

?1918. *Cythereis dentata* G. W. MÜLLER – KUIPER, pp. 68–69, Pl. III, fig. 29.

1985. *Bosquetina* cf. *reticulata* (SCHEREMETA, 1969) sensu BRESTENSKÁ, 1975 – MONOSTORI, p. 202, Pl. 7, figs 1–2.

Derivatio nominis

After the type locality (Kiséged near town Eger, Hungary)

Holotypus

Left valve.

Locus typicus

Kiséged, road cut section.

Stratum typicum

Kiscellian Tard Clay Formation sample 12.

Diagnosis

The dorsal and ventral outlines run quickly towards each other, the median part of the valves are pitted.

Description

In the lateral view of the left valves the anterior outline is wide and asymmetrically rounded, its dorsal part are nearly straight. It turns at about the $\frac{1}{4}$ of the length at 120° angles into the nearly straight dorsal outline (there is a slight elevation between ~ 0.5 – 0.8 of the length). The posterior outline is very asymmetrical. Its upper part from 0.9 of the length is slightly concave, the lower part is obviously convex and turn into the slightly convex ventral outline which quickly go away from the direction of the dorsal one.

Ornamentation: there is pitting on the middle of the surface from the dorsal outline up to the ventral keels with pits of different sizes. There are no pits in anterior and posterior quarters. There are some arcuated ventral keels (up to five), the first one ends with a knot at about 0.8 of the length. Another knot is posterodorsally before 0.9 of the length. An indistinct, large knot is in the cardinal angle. The anterior and posterior smooth parts are depressive.

The right valve is very similar, the overlap is indistinct.

In dorsal view of the carapace the valves are nearly parallel up to 0.18 of the length, then rise from 45° to 0° up to 0.4 of the length, then run nearly parallel up to the 0.8 of the length. From 0.8 – 0.9 the outlines are concave (from 90 – 45°), and there is a posterior end with parallel valves.

Dimensions

carapace L = 1.09–0.87 mm
 H = 0.51–0.70 mm
 L/H = 1.56–1.71
 W = 0.45 mm

Variations

There is a variation in the degree of the pitting: on some specimens its surface is more limited and the pits are smaller.

Comparison

Scheremeta's *Brachycythere ventriculata* has not distinct ventral keel, it is not related to this form. KUIPER's (1918) *Cythereis dentata* G. W. MÜLLER have similar ornamentation, but the form is much more elongated. Large and regularly aequal pits in BRESTENSKÁ (1975) are different from this form.

Occurrence

Alcsútdoboz–3 borehole 455.5 m; Budapest, Városmajor–1 borehole 96.7–97.8 m; Kiséged road cut section samples 12, 13; Kiséged 1987 outcrop samples 1, 2, 3.

Material

36 specimens.

Stratigraphical range in Hungary

Oligocene.

Bosquetina zalanyii BRESTENSKÁ, 1975

Pl. 18, fig. 7, Pl. 19, figs 1–4.

1929. *Cythereis dentata* G. W. MÜLLER, 1878 – ZALÁNYI, 1929, pp. 111–118, Pl. I, figs 4–7, 12–13, Pl. III., figs 1–18, textfigs 49–50. (Partim)

1975. *Bosquetina zalanyii* n. sp. – BRESTENSKÁ, pp. 390–392, Pl. 8, figs 1–3.

1985. *Bosquetina zalanyii* BRESTENSKÁ, 1975 – MONOSTORI, p. 201, Pl. 6, figs 9–10.

Remarks

The lateral surface (apart from the ventral keel-row) is mainly smooth, on some scanning photos very fine punctation is visible in the median part of the valves from the dorsal outline to the ventral keel-row.

Dimensions

carapaces L = 1.20 – 1.09 mm
 H = 0.64–0.69 mm
 L/H = 1.65–1.88
 W = 0.66 mm

Occurrence

Kiscell-1 borehole 51.6–62.5 m; Budapest, Metro H-7/1 borehole 153.8–156.0 m; Budapest, Metro H-13 borehole 32.0–33.0 m; Budapest, Törökvész-6 borehole 4.5 m; Budapest, Törökvész-8 borehole 3.0–3.5 m; Budapest, Törökvész-13 borehole 2.5 m; Budapest, Városmajor-1 borehole 96.7–97.8 m; Budapest, Diana u; Budapest, Zugliget outcrop samples N^o3, 7; Budapest SzOT-4 borehole 54.0 m; Cserépváralja-1 borehole 336.8–337.0 m; Kiséged road cut section, samples 3a, 3b, 12; Kiséged 1987 outcrop samples 1, 2, 3; Alcsútdoboz-3 borehole 455.5–487.1 m.

Material

187 specimens.

Stratigraphical range without Hungary

Czechoslovakia: Kiscellian–Egerian.

Stratigraphical range in Hungary

Oligocene.

Genus *Occultocythereis* HOWE, 1951
Occultocythereis rupelica MONOSTORI, 1982
Pl. 19, fig. 5.

1982. *Occultocythereis rupelica* n. sp. – MONOSTORI, pp. 63–64, Pl. VII, fig. 1.

1985. *Occultocythereis rupelica* MONOSTORI, 1982 – MONOSTORI, 1985, p. 202.

Remarks

The description see in MONOSTORI (1982).

Dimensions

carapaces L = 0.54–0.57 mm

H = 0.30 mm

L/H = 1.80–1.90

Occurrence

Budapest, Metro H-3 borehole 56.8–59.0 m; Budapest, Metro H-9 borehole 29.4–31.4 m; Eger Wind brickyard borehole 50.3–50.9 m.

Material

4 specimens.

Stratigraphical range in Hungary

Upper Priabonian–Lower Oligocene.

Occultocythereis ex gr. *mutabilis* TRIEBEL, 1961

1985. *Occultocythereis* ex gr. *mutabilis* TRIEBEL, 1961 – MONOSTORI, p. 202.

Remarks

The visible ornamental elements point at this species.

Occurrence

Budapest, Ibolya-u. quarry 5.5 m; Noszvaj, Síkfőkút quarry, sample 20.

Material

2 carapaces.

Familia Cytherettidae TRIEBEL, 1952

Genus *Cytheretta* TRIEBEL, 1952

Cytheretta posticalis TRIEBEL, 1952

Pl. 19, fig. 6.

1952. *Cytheretta posticalis* n. sp. – TRIEBEL, p. 23, Pl. 3, f. 18–21.

1985. *Cytheretta posticalis* TRIEBEL, 1952 – MONOSTORI, p. 203. (cum syn.)

Remarks

The description of the just figured specimens is in MONOSTORI (1982).

Dimensions

carapace L = 0.98 mm
H = 0.52 mm
L/H = 1.89
W = 0.46 mm

Occurrence

Budapest, Zugliget outcrop sample 3.

Material

1 carapace.

Stratigraphical range without Hungary

Germany: Oligocene; Switzerland: Oligocene; Czechoslovakia: Oligocene.

Stratigraphical range in Hungary

Lower Oligocene.

Cytheretta variabilis OERTLI, 1956
Pl. 19, figs 7–8.

1956. *Cytheretta variabilis* n. sp. – OERTLI, pp. 62–63, Pl. 7, figs 172, 180–188.

1982. *Cytheretta variabilis* OERTLI, 1956 – MONOSTORI, pp. 43–44, Pl. II, figs 4–5.

Remarks

The description (MONOSTORI, 1982) needs to be corrected based on new SEM photos: the ventral ridge (swelling) begins near the anterior margin and runs nearly parallel with the ventral outline and terminate at 0.8–0.9 of the length expanded upwards. The „subcentral tubercle” is the remain a median ridge, as visible on some specimens. On the middle part of the dorsal outline there are weak traces of a dorsal ridge.

Dimensions

carapaces L = 0.89 mm

H = 0.50–0.51 mm

L/H = 1.75–1.78

Occurrence

Pilisszentkereszt Sz 1–74 section samples g, i.

Material

6 carapaces.

Stratigraphical range without Hungary

Switzerland: Rupelian.

Stratigraphical range in Hungary

Lower Oligocene.

Familia Loxoconchidae SARS, 1925

Genus Loxoconcha SARS, 1866

Loxoconcha carinata tardense MONOSTORI, 1985
Pl. 20, figs 1–6.

1985. *Loxoconcha carinata tardense* n. ssp. – MONOSTORI, pp. 204–205, Pl. 7, figs 3–4.

Remarks

The details of the reticulation are very variable.

Dimensions

carapace L = 0.40–0.45 mm
H = 0.21 mm
L/H = 1.89–2.11
W = 0.22 mm

Occurrence

Kiscell–1 borehole 51.6–62.5 m; Budapest, Metro H–11a borehole 59.0–61.0 m; Budapest, Metro H–12 borehole 25.0–26.0 m; Budapest, H–13 borehole 36.0–37.0 m; Kiséged, road cut section samples 2a, 4, 12; Kiséged 1987 outcrop samples 1, 3.

Material

47 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Lococoncha delemontensis hungarica MONOSTORI, 1982
Pl. 20, fig. 7, Pl. 21, figs 1–5.

1982. *Loxoconcha delemontensis hungarica* n. ssp. – MONOSTORI, pp. 71–72, Pl. VIII, figs 1–6.

1985. *Loxoconcha delemontensis hungarica* MONOSTORI, 1982 – MONOSTORI, pp. 205–206.

Remarks

The details of the reticulation are variable, the units of the ornamentation are mainly large.

Dimensions

carapaces L = 0.40–0.48 mm
H = 0.21–0.25 mm
L/H = 1.75–1.95
W = 0.19–0.25

Occurrence

Kiscell–1 borehole 51.6–59.6 m; Budapest, Metro H–7/1 borehole 156.0–171.0 m; Budapest, Metro H–11/a borehole 59–61.0 m; Budapest, Metro H–12 borehole 21.0–22.0 m; Budapest, Metro H–13 borehole 32.0–33.0 m; Budapest, Törökvész–6 borehole 3.5–4.0 m; Budapest, Törökvész–8 borehole 2.5–30.5 m; Budapest, Törökvész–13 borehole 2.0–2.5 m; Budapest, Diana u.; Budapest, Városmajor–1 borehole 97.8–103.7 m; Budapest, Zugliget outcrop samples 7, 11; Kiséged, road cut section samples N°3b, 12; Kiséged 1987 outcrop samples 1, 2, 3.

Material

179 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Loxoconcha favata KUIPER, 1918

Pl. 21, figs 6–7, Pl. 22, fig. 1.

1982. *Loxoconcha* cf. *favata* KUIPER, 1918 – MONOSTORI, pp. 44–45.

1985. *Loxoconcha favata* KUIPER, 1918 – MONOSTORI, pp. 206–207, Pl. 7, figs 5–6. (cum syn.)

Remarks

The specimens from the Hárshegy Sandston Formation fit with his variation into the forms mentioned in remarks of MONOSTORI (1985).

Dimensions

carapace L = 0.54 – 0.57 mm

H = 0.30–0.32 mm

L/H = 1.69–1.80

Occurrence

Pilisszentkereszt Sz1–74 section samples g, h, i, i₂, j; Szentendre–2 borehole 1078.0–1084 m; Cserépváralfa–1 borehole 336.8–337.0 m; Alcsútdoboz–3 borehole 336.0–413.0 m.

Material

39 carapaces.

Stratigraphical range without Hungary

Netherlands: Rupelian–Miocene; Switzerland: Rupelian; ?Ukraina: Oligocene; ?France: Miocene; ?Germany: Oligocene–Lower Miocene; Czechoslovakia: Egerian.

Stratigraphical range in Hungary

Oligocene.

Loxoconcha subovata (VON MÜNSTER, 1830) sensu BRESTENSKÁ, 1975

Pl. 22, fig. 2.

1975. *Loxoconcha subovata* (MÜNSTER) – BRESTENSKÁ, p. 405, Pl. 12, figs 11–12.

1985. *Loxoconcha* ex gr. *subovata* (VON MÜNSTER, 1830) – MONOSTORI, pp. 207–208.

Remarks

Our specimens agree with figured specimens of BRESTENSKÁ (1975). The species – described from Eocene to Miocene – needs revision after the very variable figures. Our

material is not sufficient to establish a revision.

Dimensions

carapace L = 0.40 mm
H = 0.32 mm
L/H = 1.67

Occurrence

Alcsútdoboz–3 borehole 442.0 m.

Material

3 specimens.

Loxoconcha ex gr. *aequapunctata* DELTEL, 1964
Pl. 22, fig. 3.

Remarks

Our form is similarly ornamented (densely pitted, with fine radial and concentric riblets on the perifers). Depressed ventral and posterior parts are characteristic. The posterior end is more obtuse than those of the type, but similar to some morphs in BEKAERT et al. (1991).

Dimensions

carapace L = 0.54 mm
H = 0.31 mm
L/H = 1.74

Occurrence

Budapest, Városmajor–1 borehole 96.7–97.8 m.

Material

1 specimen.

Loxoconcha sp. 1
Pl. 22, fig. 4.

Remarks

A stubby form. The anterior outline is moderately asymmetrical, the dorsal outline is slightly arcuate. The posterior outline is asymmetrical, its upper part is slightly concave, then turns in to the convex lower part. The ventral outline is somewhat sinuous. Up to 0.7 of the length it runs nearly parallel with dorsal outline or at a small angle to it, then they converge.

The lateral surface anterior and posterior smooth, the median part is finely pitted. The anterior and posteroventral rim is depressed. Near the ventral outline is a swelling

sometimes with a fine rib from ~0.3–0.6 of the length.

There is a slight swelling in the eye-knob area.

There are many similar forms in the Tertiary, but all they differ in the details.

Dimensions

caparaces L = 0.55–0.66 mm

H = 0.31–0.40 mm

L/H = 1.57–1.65

Occurrence

Kiscell-1 borehole 56.5 m; Budapest, Metro H-3 borehole 193.0–195.0 m; Budapest, Metro H-11a borehole 59.0–61.0 m; Kisege 1987 outcrop sample 1.

Material

4 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Eucytherura dentata LIENENKLAUS, 1905

Pl. 22, fig. 5.

1905. *Eucytherura dentata* n. sp. – LIENENKLAUS, p. 57, Pl. IV, fig. 31.

1985. *Eucytherura dentata* LIENENKLAUS, 1905 – MONOSTORI, pp. 208–209, Pl. 7, fig. 7. (cum syn.)

Remarks

The spines on the anterior margin are not visible on the single specimen.

Dimensions

carapace L = 0.42 mm

H = 0.24 mm

L/H = 1.75

Occurrence

Kisege, manganiferous clay sample 4.

Material

1 specimen.

Stratigraphical range without Hungary

Germany: Rupelian; Belgium: Bartonian–Rupelian; Czechoslovakia: Oligocene.

Stratigraphical range in Hungary

Upper Eocene–Oligocene.

Cytheropteron emmeneggeri SCHERER, 1964
Pl. 22, figs 6–8, Pl. 23, figs 1–4.

1964. *Cytheropteron emmeneggeri* n. sp. – SCHERER, pp. 16–17, Pl. 2, figs 10–14.

1982. *Cytheropteron emmeneggeri* SCHERER, 1964 – MONOSTORI, pp. 72–74, Pl. VIII, figs 7–11.

1982. *Cytheropteron emmeneggeri* SCHERER, 1964 – CARBONNEL (in JUNG, 1982)

1985. *Cytheropteron emmeneggeri* SCHERER, 1964 – MONOSTORI, p. 211.

Description

See in MONOSTORI (1982).

Dimensions

carapace L = 0.44–0.55 mm

H = 0.25–0.31 mm

L/H = 1.61–1.83

W = 0.31–0.33 mm

Occurrence

Kiscell–1 borehole 51.6–62.5 m; Budapest, Metro H–3 borehole 193.0–195.0 m; Budapest, Metro h–7/1 borehole 161.0–171.2 m; Budapest, Metro H–11/a borehole 59.0–61.0 m; Budapest, Metro H–12 borehole 21.0–33.0 m; Budapest, Metro H–13 borehole 32.0–52.5 m; Budapest, Törökvész–6 borehole 2.5–3.5 m; Budapest Törökvész–8 borehole 2.5–7.5 m; Budapest, Törökvész–13 borehole 2.0–2.5 m; Városmajor–1 borehole 95.6–103.7 m; Kiséged, road cut section samples 2a, 3a, 3b, 4, 12, 13; Kiséged 1987 outcrop samples 1, 2, 3.

Material

294 specimens.

Stratigraphical range without Hungary

Switzerland: Rupelian.

Stratigraphical range in Hungary

Lower Oligocene.

Cytheropteron cf. *triangulare* LIENENKLAUS, 1900
Pl. 23, fig. 5.

1982. *Cytheropteron* sp. – MONOSTORI, p. 74, Pl. VIII, fig. 12.

Remarks

The single carapace is very similar the specimens figured by MOOS (1973).

Dimensions

carapace L = 0.46 mm
H = 0.36 (from the dorsal outline to the peak of the ventral alar projection)
L/H = 1.28

Occurrence

Budapest, Metro H-13 borehole 36.0–37.0 m.

Material

1 specimen.

Familia Xestoleberididae Sars, 1928

Genus *Uroleberis* Triebel, 1958

Uroleberis striatopunctata Ducas, 1967

Pl. 23, fig. 6.

1959. *Eocytheropteron striatopunctatum* n. sp. – Ducas, pp. 44–45, Pl. XIX, f. 2a–b.
1961. *Uroleberis striatopunctata* (Ducas, 1959) – Deltel, 1961, p. 137, Pl. 12, f. 209.
1966. *Uroleberis striatopunctata* (Ducas, 1959) – Moussou, p. 75, Pl. 21, f. 85a–b.
1967. *Uroleberis striatopunctata* n. sp. – Ducas, pp. 61–62, Pl. III, f. 67.
1969. *Uroleberis striatopunctata* Ducas – Ducas, p. 103, Pl. VII, f. 148.
1971. *Uroleberis striatopunctata* Ducas, 1959 – Blondeau, p. 97, Pl. X, f. 16.
1973. *Uroleberis striatopunctatum* Ducas, 1959 – Sönmez-Gökçen, p. 95, Pl. XII, f. 36–37.
1985. *Uroleberis striatopunctata* Ducas, 1967 – Ducas et al., Pl. 88, f. 3.
1985. *Uroleberis striatopunctata* Ducas, 1967 – Monostori, 1985, pp. 124–125, Pl. XVI, f. 4–5.
1985a. *Uroleberis striatopunctata* Ducas, 1967 – Monostori, pp. 213–214.
1993. *Uroleberis striatopunctata* Ducas-Ollivier-Pierre et al., P. IV, f. 8.
2000. *Uroleberis striatopunctata* Ducas – Monostori, p. 71, Pl. 12, f. 5.

Remarks

Ducas gives a description in her thesis (1959), but the valid „naming” is found in her later article (1967) according to her opinion (Ducas et al., 1985). The figured specimen from the Dorog basin is very close to the type figure (1967). The specimen from Sikkút figured in this work has somewhat less narrow anterior part and more straight ventral outline. This specimen is wrongly figured as age of Eocene in Monostori (2000)

Dimensions

carapace: L = 0.55 mm
H = 0.39 mm
L/H = 1.41 mm.

Occurrence

Bükk area: Noszvaj, Síkfőkút, quarry sample 21.

Material

1 carapaces.

Stratigraphical distribution without Hungary

France: Lower Eocene–Stampian, Turkey: Bartonian.

Stratigraphical range in Hungary

Middle and Upper Eocene (Upper Bartonian–Priabonian), lowermost Oligocene.

Protoargilloecia angulata DELTEL, 1961

Pl. 23, fig. 7, Pl. 24, figs 1–3.

1961. *Protoargilloecia angulata* n. sp. – DELTEL, pp. 42–44, Pl. 5, figs 66–69.

1963. *Protoargilloecia angulata* n. sp. – DELTEL, pp. 146–148, Pl. II, figs 32–24.

?1969 *Protoargilloecia angulata* DELTEL, 1961 – DUCASSE, p. 28, pl. 2, fig. 34.

1983. *Protoargilloecia angulata* DELTEL, 1961 – DUCASSE, pp. 276–279, Pl. I.

1985. *Protoargilloecia angulata* DELTEL, 1964 – DUCASSE et al., Pl. 88, fig. 14.

1985. *Argilloecia quasiramphasta* n. sp. – MONOSTORI, pp. 216–218, Pl. 8, figs 1–3.

Remarks

The Late Eocene–Early Oligocene material of Hungary (MONOSTORI, 1985) belongs to this species. On the main part of the Oligocene specimens the beak-formed posterior pointing rare, usually the posterior end is blunt-pointed, similarly to DUCASSE, 1983, Pl. I., figs 1–8, 14.

Dimensions

carapace L = 0.50–0.56 mm

H = 0.22–0.28 mm

L/H = 1.96–2.55

W = 0.23 mm

Occurrence

Kiscell–1 borehole 83.4 m; Budapest, Metro H–1 borehole 14.8–34.8 m; Budapest, Metro H–2 borehole 36.4–55.0 m; Budapest, Metro H–3 borehole 50.3–59.0 m; Cserépváralja–1 borehole 240.0–240.2 m; Varbó–50 borehole 409.2–410.4 m; Eger, Wind brickyard borehole 71.5–73.1 m; Noszvaj, Síkfőkút quarry samples 18, 21; Kiséged manganiiferous clay sample 4.

Material

21 specimen.

Stratigraphical range without Hungary

France: Sparnacian–Chattian.

Stratigraphical range in Hungary

Bartonian–Lower Oligocene.

Superfamilia Cypridacea BAIRD, 1845

Familia Candonidae KAUFMANN, 1900

Subfamilia Paracyprinae SARS, 1923

Genus *Paracypris* SARS, 1866*Paracypris? rupelica* MONOSTORI, 1982

Pl. 24, figs 4–6.

1982. *Paracypris? rupelica* n. sp. – MONOSTORI, pp. 65–66, Pl. VII, figs 2–3.1985. *Paracypris? rupelica* MONOSTORI, 1982 – MONOSTORI, pp. 219–220.*Dimensions*

carapaces L = 0.54–0.90 mm

H = 0.34–0.47 mm

L/H = 1.87–1.95

Occurrence

Budapest, Metro H–1 borehole 25.0–47.2 m; Budapest, Metro H–2 borehole 36.4–39.1 m; Budapest, SzOT–1 borehole 5.5–16.0 m; Budapest SzOT–4 borehole 54.0 m; Budapest, SzOT–6 borehole 10.8 m; Cserépváralja–1 borehole 240.0–296.0 m; Kiséged, manganiferous clay samples 1, 3, 4.

Material

52 specimens.

Stratigraphical range in Hungary

Priabonian–Lower Oligocene.

Paracypris? kiségedensis n. sp.

Pl. 24, fig. 7–8, Pl. 25, fig. 1.

Derivatio nominis

After the locality name.

Holotypus

A carapace.

Locus typicus

Kiséged road cut section.

Stratum typicum

Kiscellian, Tard Clay Formation, sample 12.

Diagnosis

Elongated form with nearly symmetrical anterior, hollowed ventral, blunt posterior and asymmetrically arched dorsal outlines.

Description

The anterior outline of the left valves is nearly symmetrically rounded. After a break at about of 0.1 of the length the dorsal outline is broadly arched up to 0.6–0.7 of the length, than nearly straight. The posterior outline is blunt, with rather large radius. The ventral outline has a shallow, symmetrical hollowing.

The right valve has a similar outline with a little depression on the anterior part of the dorsal outline and with a more deep ventral hollowing. The surface is unornamented. The left valve overlaps the right one. The inner features are not visible.

Dimensions

carapaces $L = 0.83\text{--}1.02\text{ mm}$

$H = 0.41\text{--}0.48\text{ mm}$

$L/H = 2.02\text{--}2.17$

Variations

Some minor variations are in the placing and strength of the posterodorsal break.

Comparison

Similar form is the *P. trosliensis* APOSTOLESCU, 1956, which is dorsally more arched.

Occurrence

Kiseged 1987 outcrop samples 1, 2; Kiseged road cut section samples 10, 12.

Material

8 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Paracypris ex gr. *propinqua* TRIEBEL, 1963

Pl. 25, fig 2.

1985. Cypridacea fam., gen. et sp. indet. 2. – MONOSTORI, p. 223, Pl. 8, figs 7–8.

Remarks

The arc of the anterior outline is more wide and the posterior end is less pointed.

Dimensions

carapaces L = 1.04–1.22 mm
H = 0.38–0.44 mm
L/H = 2.74–2.77

Occurrence

Budapest, Törökvész–6 borehole 6.5 m; Budapest, Törökvész–8 borehole 5.5 m; Kiséged 1987 outcrop sample 1.

Material

5 specimens.

Paracypris cf. *bouldnorenensis* KEEN, 1978
Pl. 25, figs 3–5.

Remarks

Poorly preserved specimens. The anterior outline of the left valves is nearly symmetrically rounded, the dorsal outline has a very large arc, the posterior outline is symmetrically rounded, blunt, its terminal point is at lower 1/3 of the maximal height. The ventral outline is moderately hollowed. The outline of the right valve has deeper ventral hollow.

In dorsal view the emerging and sinking of the lateral surfaces are first very strong but then minimal (rather flat valves with proportionally thick perpendicular ends). The lateral surface seems to be smooth.

This form is most close to species *Paracypris bouldnorenensis* KEEN, 1978. Difference is the more elongated shape, less arched dorsal outline, and the higher placing of the posterior terminal point.

Dimensions

carapaces L = 0.80–0.83 mm
H = 0.35–0.36 mm
L/H = 2.22–2.37
W = 0.28 mm

Occurrence

Pilisszentkereszt Sz 1–74 section samples g, h, i, i₂.

Material

75 specimens.

Stratigraphical range in Hungary

Lower Oligocene.

Subfamilia Candoninae KAUFMANN, 1900
Genus *Candona* BAIRD, 1845

Candona fertilis TRIEBEL, 1963
Pl. 25, fig. 6.

1963. *Candona (Pseudocandona) fertilis fertilis* n. sp. – TRIEBEL, pp. 167–168, Pl. 27, figs 19–22, Pl. IX, fig. 1.
1982. *Candona fertilis* TRIEBEL, 1963 – MONOSTORI, pp. 74–75, Pl. VIII, fig. 14, Pl. 9, fig. 1. (cum syn.)
?1985. *Candona* sp. – MONOSTORI, p. 222.
1985. *Pseudocandona fertilis* TRIEBEL, 1963 – CARBONNEL, WIEDMANN et BERGER, p. 227, Pl. V, figs 10–12.

As has written in MONOSTORI (1982), this form fits well in the variations of this species.

Dimensions

L = 1.00 mm
H = 0.58 mm
L/H = 1.72

Occurrence

Budapest, Törökvész–8 borehole 7.5 m; Budapest, Törökvész–13 borehole 2.0 m; Budapest, SzOT–1 borehole 16.0 m.

Material

7 specimens.

Stratigraphical range without Hungary

Germany: Oligocene; France. Chattian–Aquitania; Switzerland: Oligocene.

Stratigraphical range in Hungary

Lower Oligocene.

Candona? recta LIENENKLAUS, 1905
Pl. 25, figs 7–8, Pl. 26, figs 1–6.

1905. *Candona recta* n. sp. – LIENENKLAUS, pp. 22–23, Pl. I, fig. 6.
1962. *Candona recta* LIENENKLAUS, 1905 – DOEBL & MALZ, p. 398, Pl.
1982. *Candona? aff. recta* LIENENKLAUS, 1905 – MONOSTORI, pp. 75–76, Pl. IX, figs 2–3.
1985. *Candona? recta* LIENENKLAUS, 1905 – MONOSTORI, pp. 221–222, Pl. 8, fig. 5.

Dimensions

L = 0.98–1.10 mm
H = 0.45–0.53 mm

L/H = 2.07–2.13

W = 0.39 mm

Occurrence

Kiscell–1 borehole 51.6–59.5 m; Budapest, Metro H–12 borehole 21.0–22.0 m; Budapest, Metro H–13 borehole 32.0–37.0 m; Budapest, Törökvész–6 borehole 3.5 m; Budapest, Törökvész–8 borehole 2.5–3.0 m; Budapest, Törökvész–13 borehole 2.0 m; Budapest, Városmajor–1 borehole 96.7–97.8 m; Budapest, Zugliget outcrop samples 3, 7, 9; Kiséged road cut section samples 3a, 3b, 12; Kiséged 1987 outcrop samples 1, 2, 3.

Material

103 specimens.

Stratigraphical range without Hungary

Germany: Miocene.

Stratigraphical range in Hungary

Lower Oligocene.

Candona? sp. indet.

Pl. 27, fig. 1.

1985. Cypridacea fam. gen. et sp. indet. 4 – MONOSTORI, pp. 223–224, Pl. 8, fig. 11.

Remarks

The outlines are principally close to those of different species of *Lineocypris*, *Pseudocandona* and *Candona*.

Occurrence

Kiséged road cut section, samples N°3a, 3b.

Material

2 carapaces.

Remarks

There are 97 badly preserved carapaces in the Lower Oligocene (Tard Clay Formation) of the Budapest area with shape similar to Candonidae.

Familia Cyprididae BAIRD, 1845
Subfamilia Eucypridinae BRONSTEIN, 1947
Genus *Moenocypris* TRIEBEL, 1959

Moenocypris bockenheimensis TRIEBEL, 1963
Pl. 27, figs 2–4.

1963. *Moenocypris bockenheimensis* n. sp. – TRIEBEL, pp. 179–180, Pl. 34, figs 58–61, Pl. 35, fig. 62.
1963. *Moenocypris bockenheimensis* TRIEBEL, 1963 – TRIEBEL, fig. 35.
1982. *Moenocypris* cf. *bockenheimensis* TRIEBEL, 1963 – MONOSTORI, p. 76–77, Pl. IX, fig. 4.
1985. *Moenocypris bockenheimensis* TRIEBEL, 1963 – CARBONNEL et al., p. 226, Pl. VI, figs 1–4.

Description

The anterior outline of the left valves is asymmetrically rounded, the dorsal outline is trapezoidal. Anterior break ($\sim 150^\circ$) on the dorsal outline is at 0.25 of the length, the posterior one ($\sim 150^\circ$) at 0.75 of the length. The posterior outline is nearly symmetrically rounded, its radius is larger than that of the anterior outline. The ventral outline is hardly concave. The overlap of the left valve is conspicuous at the ventral outline, which has a long and shallow embayment. The lateral surface is smooth.

Remarks

The shape of the carapaces agree with those of the type, the L/H ratio is somewhat more variable.

Dimensions

carapaces L = 0.75–1.45 mm
H = 0.34–0.74 mm
L/H = 1.96–2.24

Occurrence

Budapest, Törökvész–6 borehole 2.5–6.5 m; Budapest, Törökvész–8 borehole 3.0–10.5 m; Budapest, Törökvész–13 borehole 2.0 m; Kiséged road cut section samples N°3a; Kiséged 1987 outcrop samples 1, 2, 3.

Material

66 specimens.

Stratigraphical range without Hungary

Switzerland: Oligocene; Germany: Aquitanian.

Stratigraphical range in Hungary

Lower Oligocene.

Familia Cypridopsidae KAUFFMANN, 1900
Subfamilia Cypridopsinae BRONSTEIN, 1947
Genus *Curvopsis* MALZ, 1977

Curvopsis curvata (LIENENKLAUS, 1905)

Pl. 27, figs 5–6, Pl. 28, figs 1–2.

1905. *Cypria curvata* n. sp. – LIENENKLAUS, pp. 19–20, Pl. I, Fig. 4.
 1921. *Cypria curvata* LIENENKLAUS, 1905 – WENZ, pp. 160, 172, Pl. 25, figs 29–30.
 1962. *Cypria? curvata* LIENENKLAUS, 1905 – DOEBL et MALZ, p. 397, Pl. 58, figs 10– 11.
 1970. *Cypridopsis? curvata* (LIENENKLAUS, 1905) – WIESNER, p. 10, figs 2. 14.
 1973. *Cypridopsis? curvata* (LIENENKLAUS, 1905) – WIESNER, Fig. 2, 3, 17.
 1977. *Curvopsis curvata* (LIENENKLAUS, 1905) – MALZ, pp. 237–239, Pl. 1, figs 3–4, Pl. 2, figs 8–16, Pl. 3, fig. 23, Textfig. 4, 5c.
 1982. *Cypridopsinae* gen. et sp. indet. 1 – MONOSTORI, p. 77.
 1985. *Cypridopsidae* gen. et sp. indet. 1 – MONOSTORI, p. 222.

Description

Nearly trigonal form with similar anterior and posterior outline (the radius of the anterior outline is somewhat larger). The break of the dorsal outline is at ~0.5 of the length. The carapace is very high.

The left valve is somewhat larger. The ventral outline is straight on the left valve and obviously hollowing on the right one.

The lateral surface is smooth.

Remarks

The dorsal peak of the „triangle” differently rounded on the specimens, as seen in MALZ (1977), too.

Dimensions

carapaces L = 0.62–0.79 mm
 H = 0.50–0.54 mm
 L/H = 1.24–1.49

Occurrence

Budapest, Törökvész–8 borehole 2.0–2.5 m; Budapest, Törökvész–13 borehole 3.5–7.5 m; Budapest, Városmajor–1 borehole 96.7–97.8 m; Budapest, Diana u.; Budapest, Zugliget outcrop sample 3; Kiséged road cut samples 3b, 12; Kiséged 1987 outcrop sample 1.

Material

32 specimens.

Stratigraphical range without Hungary

Germany: Lower Miocene.

Stratigraphical range in Hungary

Lower Oligocene.

?Curvopsis curvata (LIENENKLAUS, 1905)

Pl. 28, figs 3–4.

Remarks

Shape is very similar to that of the *Curvopsis curvata*, but less triangular, more hemicircular. Similar forms are also in MALZ (1977), so perhaps they fit in the variation of the species, but also similar is the outline of the *Cypria dorsata* n. sp. in MALZ & MOAYEDPOUR, 1973.

Dimensions

carapaces L = 0.61–0.63 mm

H = 0.47–0.48 mm

L/H = 1.29–1.31

Occurrence

Budapest, Törökvész–8 borehole 7.5 m; Budapest, Zugliget outcrop sample N°7; Kiséged 1987 outcrop samples 2, 3.

Material

7 carapaces.

Cypridopsidae gen. et sp. indet. 3, 1982

Pl. 28, fig. 5.

1982. Cypridopsinae gen. et sp. indet. 3 – Monostori, p. 77, Pl. IX, fig. 7.

Remarks

Moderately elongated form with blunt posterior and anterior end (the arc of the posterior end somewhat narrower than that of the anterior one). There is a triangular break at the half of the length. The ventral outline has a symmetrical shallow hollowing on the left and a deeper one on the right valve. The lateral surfaces are smooth. Similar outline have *Curvopsis propinqua* n. sp. and *Cavernopsis angusta* n. sp. in MALZ (1977).

Dimensions

carapaces L = 0.50–1.24 mm

H = 0.28–0.70 mm

L/H = 1.77

Occurrence

Budapest, Törökvész–6 borehole 4.0 m; Kiséged road cut sample 3a.

Material

3 specimens.

Ostracoda gen. et sp. indet.
Pl. 28., fig. 6.

Remarks

Very arcuate and elongated form. The ventral and dorsal outlines are nearly symmetrically arcuate. The posterior and anterior outlines are rounded, the anterior radius somewhat larger. Form of valves and indistinct remains of pitted surface remind of Cushmanidea.

Dimensions

carapaces L = 0.54 mm
H = 0.22–0.26 mm
L/H = 2.07–2.45

Occurrence

Szentendre–2 borehole 1082.4–1084.0 m.

Material

2 specimens.

References

- APOSTOLESKU, V. (1956): Contribution à l'étude des ostracodes de l'Eocène inférieur de Bassin de Paris. – *Revue Inst. Franc. Petrole* 11/11, 1327–1343.
- APOSTOLESKU, V. & GUERNET, Cl. (1992): Les ostracodes Oligocenes de la region Forcalquier-Manosque (Bassin continental d'Apt, Haute Provence). – *Rev. Micropal.* 35/2, 91–115.
- BABIN, V. & GUERNET, Cl. (1988): Contribution à l'étude de Priabonien de la Region-type (Italie du Nord): les Ostracodes. – *Revue de Micropal.* 30/4, 209–231, Pl. 1–4.
- BLONDEAU, M. A. (1971): Contribution à l'étude des Ostracodes éocènes des Bassins de Campbon et de Saffre (Loire-Atlantique). Thèse de l'Univ. Nantes, pp. 1–175, Pl. 1–17.
- BORNEMANN, J. G. (1855): Die mikroskopische Faune des Septarienthones von Hemsdorf bei Berlin. – *Zeitschrift deutsch. geol. Ges.* 7, 307–371, Taf. 12–21.
- BOSQUET, J. (1852): Description des Entomostracés fossiles des terrains tertiaires de la France et de la Belgique. – *Mém. sav. étrang. Acad. Roy. Sci. Belgique* 24, 1–142, Pl. 1–6.
- BRESTENSKÁ, E. (1975): Ostracoden des Egerien. In *Chronostratigraphie und Neostrototypen V*, 377–411, Taf. 1–12.
- CARBONNEL, G. (1969): Les Ostracodes du Miocène Rhodanien. – *Documents des Lab. de Géol. de la Fac. des Sci. de Lyon* 32, 1–469, Pl. 1–16.
- CARBONNEL, G. (1972): Étude des ostracodes. – *Bull. Bur. rech. géol. et minières, Sec. 1, Vol. 4*, 45–58, Pl. 3–4.
- CARBONNEL, G. (1982): Ostracodes. In „Nouveaux resultats biostratigraphiques dans le Bassin Molassique, depuis le Vorarlberg jusqu'en Haute-Savoie“. – *Docum. Lab. Géol. Lyon, H. S.* 7, 47–59, Pl. 1–3.
- CARBONNEL, G. & RITZKOWSKY, S. (1969): Ostracodes lacustres de l'Oligocène (Melanienton) de la Hesse (Alemagne). – *Arch. Sci.* 22/1, 55–81, Pl. 1–5.
- CARBONNEL, G., WEIDMANN, M., BERGER, J. P. (1985): Les ostracodes lacustres et saumâtres de la molasse de Suisse Occidentale. – *Revue de Paléobiologie*, 4/2, 215–251, Pl. I–VIII.

- DELTEL, B. (1961): Les Ostracodes du Paléogène moyen et supérieur d'Aquitaine méridionale. – Thèse Troisième Cycle, Université de Bordeaux, 95, 1–215, Pl. 1–19.
- DELTEL, B. (1964): Nouveaux Ostracodes de l'Eocène et l'Oligocène de l'Aquitaine méridionale. – Act. Soc. Linn. Bordeaux, 100, 127–221, pl. 1–6.
- DOEBL, F., MALZ, H. (1962): Tertiär des Rheintal-Grabens. – Leitfossilien der Mikropaläontologie. Ein Abriss, pp. 379–432, Pl. 56–59, Berlin.
- DOEBL, F. & SONNE, V. (1972): Ostrakoden. In: DOEBL et al.: Ein „Aquitain“-Profil von Mainz-Weisenau (Tertiär, Mainzer Becken). – Geol. Jahrb., A, 5, 67–74, T. 12–14.
- DOEBL, F. & SONNE, V. (1975): Mikrofauna und -flora des Unteren Meeressandes (Rupel) 1. Sandgrube am Steigerberg bei Wendelsheim (Mainzer Becken) c. Ostracoden. – Mainzer geowiss. Mitt., 4, 139–157, Pl. 1–3.
- DUCASSE, O. (1959): Les Ostracodes de l'Eocène du sous-sol bordelais: répartition, intérêt stratigraphique et paléogéographique. – Thèse Troisième Cycle, Université de Bordeaux 40, 1–132, pl. 1–28.
- DUCASSE, O. (1963): Quelques espèces nouvelles d'Ostracodes d'Eocène terminal girondin. – Actes Soc. Linnéenne Bordeaux 100, 223–248, Pl. 1–3.
- DUCASSE, O. (1967): Nouveaux Ostracodes de l'Eocène nordaquitain. – Proc.-Verb. Soc. Sc. Phys. Natur Bordeaux, pp. 1–89, Pl. 1–5.
- DUCASSE, O. (1969): Etude micropaléontologique (Ostracodes) de l'Eocène Nord-Aquitain. – Thèse Univ. Bordeaux, pp. 1–381, Pl. 1–20.
- DUCASSE, O. (1981): Etude populationniste du genre *Cytherella* (ostracodes) dans les faciès bathyaux du Paléogène aquitain. Intérêt dans la reconstitution des paléoenvironnements. – Bull. Inst. géol. Bassin Aquitain 30, 161–165.
- DUCASSE, O. (1995): Ostracodes saumâtres à la limite Oligo-Miocène en Aquitaine. – Revue de Micropal. 38/2, 113–130, Pl. 1–4.
- DUCASSE, O., GUERNET, CL., TAMBAREAU, Y. (1985): Paléogène. In: OERTLI, H. J. (ed.) Atlas des Ostracodes de France. – Bull. Centre Rech. Explor.-Prod. Elf-Aquitaine, Mem. 9, 257–311, Pl. 71–89.
- FAUPEL, M. (1975): Die Ostrakoden des Kasseler Meeressandes (Oberoligozän) in Nordhessen. – Göttinger Arb. Geol. Paläont. 17, 1–77, Pl. 1–13.
- GOERLICH, F. (1952): Über die Genotypen und den Begriff der Gattungen CYPRIDEIS und CYTHERIDEA. – Senckenbergiana 33/1–3, 185–192.
- GOERLICH, F. (1953): Ostrakoden des Cytherideinae aus der Tertiären Molasse Bayern. – Senckenbergiana 34/1–3, 117–148, T. 1–9.
- GOERLICH, F. (1957): Bemerkungen zu: Ostrakoden der Cytherideinae aus der Tertiären Molasse Bayerns. – Abhand. Hess. L.-A. für Bodenforsch. 23, 77–86.
- JIRÍČEK, (1983): Redefinition of the Oligocene and Neogene ostracod zonation of Paratethys. In: Misc. micropalaeont, Mem. Vol. 18th Eur. Colloq. Micropaleontol. pp. 195–236. Bratislava–Praha.
- KEEN, M. C. (1972): The Sannoisian and some other upper Paleogene Ostracoda from northwest Europe. – Palaeontology 15/2, 267–325, Pl. 45–56.
- KEEN, M. C. (1978): The Tertiary – Palaeogene. In: A stratigraphical index of British Ostracoda – Seel House Press, Liverpool, 385–450, Pl. 1–12.
- KEEN, M. C. (1989): Oligocene ostracod biofacies from onshore areas of the North Sea Basin. In: BATTEN, D. J., KEEN, M. C. (eds.): Northwest European Micropalaeontology and Palynology Ellis Horwood Ltd, Chichester, pp. 248–264, Pl. 1–2.
- KEIJ, A. J. (1957): Eocene and Oligocene Ostracoda of Belgium. – Memoires Inst. Roy. Sci. Nat. Belg. 136, 1–210, Pl. 1–26.
- KUIPER, W. N. (1918): Oligozäne und Miozäne Ostracoden aus den Niederlanden. – Diss. univ. Groningen, pp. 1–91, T. 1–3.

- LIENENKLAUS, E. (1894): Monographie der Ostracoden des nordwestdeutschen Tertiärs. – Zeitschr. deutsch. geol. Ges. 46, 158–268, T. 1–6.
- LIENENKLAUS, E. (1895): Die Ostrakoden des Mittel-Oligocäns von Jeune bei Etampes im Pariser Becken. – Naturwiss. Ver. Osnabrück, Jahresber. 10, 125–156, T. 1–3.
- LIENENKLAUS, E. (1896): Ostracoda. In: KISSLING, E.: Die Fauna des Mittel-Oligocäns im Berner Jura. – Abh. Schweiz. Paläont. Ges. 22, 22–33, Pl. 1–2.
- LIENENKLAUS, E. (1900): Die Tertiär-Ostrakoden des mittleren Nord-Deutschlands. – Zeitschrift deutsch. geol. Ges. 52, 497–550, T. 1–4.
- LIENENKLAUS, E. (1905): Die Ostracoden des mainzer Tertiärbeckens. – Abhandlungen Senckenberg. Naturforsch. Ges. pp. 1–67, T. 1–4.
- MALZ, H. (1977): Cypridopsinae Ostracoden aus dem Tertiär des Mainzer Beckens. – Senck. Lethaea, 58/4–5, 219–261, Pl. 1–7.
- MALZ, H. (1978): Neue Hemicyprideis-Arten (Ostracoda, Tertiär) aus dem Mainzer Becken und seinen Randgebieten. – Senckenb. Lethaea, 59/1–3, 71–79, Pl. 1–4.
- MALZ, H. & MOAYEDPOUR, E. (1973): Miozäne Süßwasser-Ostracoden aus der Rhön. – Senckenbergiana Lethaea, 54/2–4, 281–309, T. 1–5.
- MALZ, H. & TRIEBEL, E. (1970): Ostracoden aus dem Sannois und jüngeren Schichten des Mainzer Beckens. 2. Hemicyprideis n. g. – Senckenberg. Lethaea, 51/1, 1–47, Pl. 1–13.
- MÉHES Gy. (1941): Budapest környékének felsőoligocén ostracodái. – Geol. Hung. Ser. Paleont. 16, 1–95, Pl. I–VII, (with German summary)
- MONOSTORI, M. (1982): Oligocene ostracods from the surroundings of Budapest. – Ann. Univ. Sci. Budapest, Sect. Geol. XXI, 31–102, Pl. I–IX.
- MONOSTORI, M. (1985): Ostracods of Eocene/Oligocene boundary profiles in Hungary. – Annales Univ. Sci. Budap., Sect. Geol. XXV, 161–243, Pl. 1–8.
- MONOSTORI, M. (1985a): Eocene ostracods from the Dorog Basin (Northern Transdanubia, Hungary). Akadémiai Kiadó, Budapest, pp. 1–210, Pl. I–XVII.
- MONOSTORI, M. (1996): Eocene ostracods of Hungary. Systematical part 1. (Cytheracea 1). – Annales Univ. Sci. Budapestensis, Sect. Geol. 31, 27–74, 123–144, Pl. 1–22.
- MONOSTORI, M. (2000): Eocene ostracods of Hungary. Systematical part 3. (Cytheracea 3.). – Annales Univ. Sci. Budapestensis, Sect. Geol. 33, 63–103, Pl. 1–12.
- MOOS, B. (1965): Die Ostracoden-Fauna des Unteroligozäns von Bünde (Bl. Herford-West, 3817) und einige verwandte jüngere Arten (Ostr., Crust.) I. – Geol. Jahrb. 82, 593–633, 917, T. 34–39.
- MOOS, B. (1968): Zur Ostracoden-Fauna (Crust.) des Unteroligozäns von Latdorf. – Geol. Jahrb., 87, 1–40, T. 1–4.
- MOOS, B. (1973): Ostracoden des norddeutschen Eozän und einige Arten aus dem Oligozän. – Geol. Jahrb., ser A 6, 25–81, T. 1–8.
- MOUSSOU, A. (1966): Contribution à l'étude des Ostracodes de l'Oligocene girondin. – Thèse troisième Cycle, Université Bordeaux, Vol. 374, pp. 1–218, Pl. 1–33.
- MOYES, J. (1965): Les Ostracodes du Miocene Aquitain. – Drouillard, Bordeaux, 1–340, Pl. 1–13.
- MÜLLER, D. (1985): Biostratigraphische Untersuchungen in der subalpinen Unteren Süßwassermolasse zwischen Inn und Lech anhand von Ostracoden. – Paleontogr. Abt. A. 187, 1–57, T. 1–5.
- VON MÜNSTER, G. (1830): Über einige fossile Arten *Cypris* und *Cythere*. – Neues Jahrb. Min. etc., 1830, 60–67.
- OERTLI, H. (1956): Ostracoden aus der oligozänen und miozänen Molasse der Schweiz. – Schweiz. Paläont. Abh., 74, 1–118, T. 1–16.
- OERTLI, H. & KEY, A. J. (1956): Drei neue Ostrakoden Arten aus dem Oligozän Westeuropas. – Bull. Ver. schweiz. petrol.-geol. Ing. 22, 19–28, T. 1.
- OLLIVIER-PIERRE, M. F., MAUPIN, C., ESTEOULE-CHOUX & SITTLER, C. S. (1993): Transgression et paleoenvironnement à l'Oligocene en Bretagne (France): sedimentologie,

- micropaleontologie, palynologie et palynofacies du rupélien du Bassin de Rennes. – *Palaeogeogr., Palaeoclimatol., Palaeoecol.*, 103, 223–250.
- OLTEANU, R. (1980): Évolution de la communauté d'Ostracodes dans l'Oligocène du NW de la Transylvanie. – *Revue roum. Géol. Géophys. et Géogr., Ser. géol.* 24, 177–198, Pl. I–VI.
- PIETRZENIUK, E. (1969): Taxonomische und biostratigraphische Untersuchungen an Ostracoden des Eozän 5 im Norden der Deutschen Demokratischen Republik. – *Paläontol. Abhandl.* A IV/1, 1–162, Pl. I–XXVIII.
- POKORNÝ, V. (1977): The genus *Agrenocythere* (Ostracoda, Crust.) in the Paleogene of Moravia, Czechoslovakia. – *Časopis Miner. Geol.*, 22/4, 383–393, Pl. 1–3.
- REUSS, A. E. (1850): Die fossilen Entomostraceen des österreichischen Tertiär-Beckens. – *Haidingers Naturwiss. Abhandl.* 3./1, 1–92, Pl. 8–11.
- REUSS, A. E. (1851): Ueber die fossilen Foraminiferen und Entomostraceen der Septarienthonen der Umgegend von Berlin. – *Zeitschr. deutsch. geol. Ges.* 3, 49–92, T. 1–5.
- REUSS, A. E. (1856): Beiträge zur Charakteristik der Tertiärschichten des nördlichen und mittleren Deutschlands. – *Sitz. Ber. Akad. Wiss., math.-naturw. Kl.* 18, 197–372, T. 1–12.
- SCHEREMETA, V. G. (1969): The Paleogene Ostracods of Ukraine – *Izd. LGU, Lvov*, pp. 1–274, Pl. I–XXV. (in Russian, with English abstract)
- SCHERER, F. (1964): Ostrakoden aus der subalpinen Oligozän-Molasse der Schweiz. – *Bull. Ver. Schweiz. petrol. Geol. und Ing.* 31, 10–24, T. 1–3.
- SÖNMEZ-GÖKÇEN, N. (1973): Etude paléontologique (Ostracodes) et stratigraphique de niveaux du Paleogene du Sud-East de la Thrace. – *Publ. Ins. Rech. Min. Turquie* 147, 1–118, Pl. 1–12.
- SPEYER, D. (1863): Die Ostracoden der Casseler Tertiärbildungen. – *Ber. Ver. Naturk. Kassel* 13, 1–63, t. 1–4.
- STCHÉPINSKY, A. (1963): Etude des Ostracodes du Stampien d'Alsace et complément à l'étude des Ostracodes du Sannoisien en d'Alsace. – *Bull. Serv. Carte géol. Als. Lorr.* 16/3, 151–174, Pl. 1.
- TRIEBEL, E. (1952): Ostracoden der Gattung *Cytheretta* aus der Tertiär des Mainzer Beckens. – *Notizbl. Hess. L.-A. Bodenforsch.* 6, 15–30, T. 1–4.
- TRIEBEL, E. (1961): Geschlechts – Dimorphismus und Asymmetrie der Klappen bei der Ostracodengattung *Occultocythereis*. – *Senckenb. leth.* 42, 205–225, T. 1–5.
- TRIEBEL, E. (1963): Ostracoden aus dem Sannois und jüngeren Schichten des Mainzer Beckens I. Cyprididae. – *Senckenb. leth.* 44, 157–207, T. 1–12.
- TRIEBEL, E. (1963a): Mikrofossilien aus dem untergrund der Stadt Frankfurt a. M.. – *Natur und Museum* 93/6, 209–221, T. 1–3.
- UFFENORDE, H. (1981): Ostracoden aus dem Oberoligozän und Miozän des unteren Elbe-Gebietes (Niedersachsen und Hamburg, NW Deutsches Tertiärbecken). – *Palaeontogr.*, A 172, 103–198, T. 1–10.
- WITT, W. (1967): Ostracoden der bayerischen Molasse (unter besonderer Berücksichtigung der Cytherinae, Leptocytherinae, Trachyleberidinae, Hemicytherinae und Cytheretinae). – *Geol. Bavar.* 578, 1–120, T. 1–7.
- ZALÁNYI, B. (1929): Morpho-systematische Studien über fossile Muschelkrebse. – *Geol. Hung., Ser. Paleontol.* 5, 1–152, T. I–IV.

Plate 1

Figs 1–4. *Cytherella compressa* (VON MÜNSTER, 1830)

- Fig. 1. Carapace from the left valve. 52x
Budapest, Metro H–7 borehole 24.0–29.0 m
Fig. 2. Carapace from the left valve. 56x
Szentendre–2 borehole 809.0 m
Fig. 3. Carapace from the left valve. 56x
Budapest, Metro H–9 borehole 47.4–94.9 m
Fig. 4. Carapace from the left valve. 54x
Varbó–50 borehole 494.6–503.0 m

Figs 5–7. *Cytherella dentifera* MÉHES, 1941

- Fig. 5. Carapace from the left valve. 47x
Budapest, Metro H–6 borehole 37.0–41.0 m
Fig. 6. Carapace from the right valve. 59x
Alcsútdoboz–3 borehole 487.1 m
Fig. 7. Carapace from the left valve. 59x
Budapest, Metro H–7 borehole 94.0–99.0 m

Fig. 8. *Cytherella* ex gr. *beyrichi* (REUSS, 1851)

- Carapace from the left valve. 63x
Eger Wind brickyard borehole 71.5–73.4 m

Plate 1

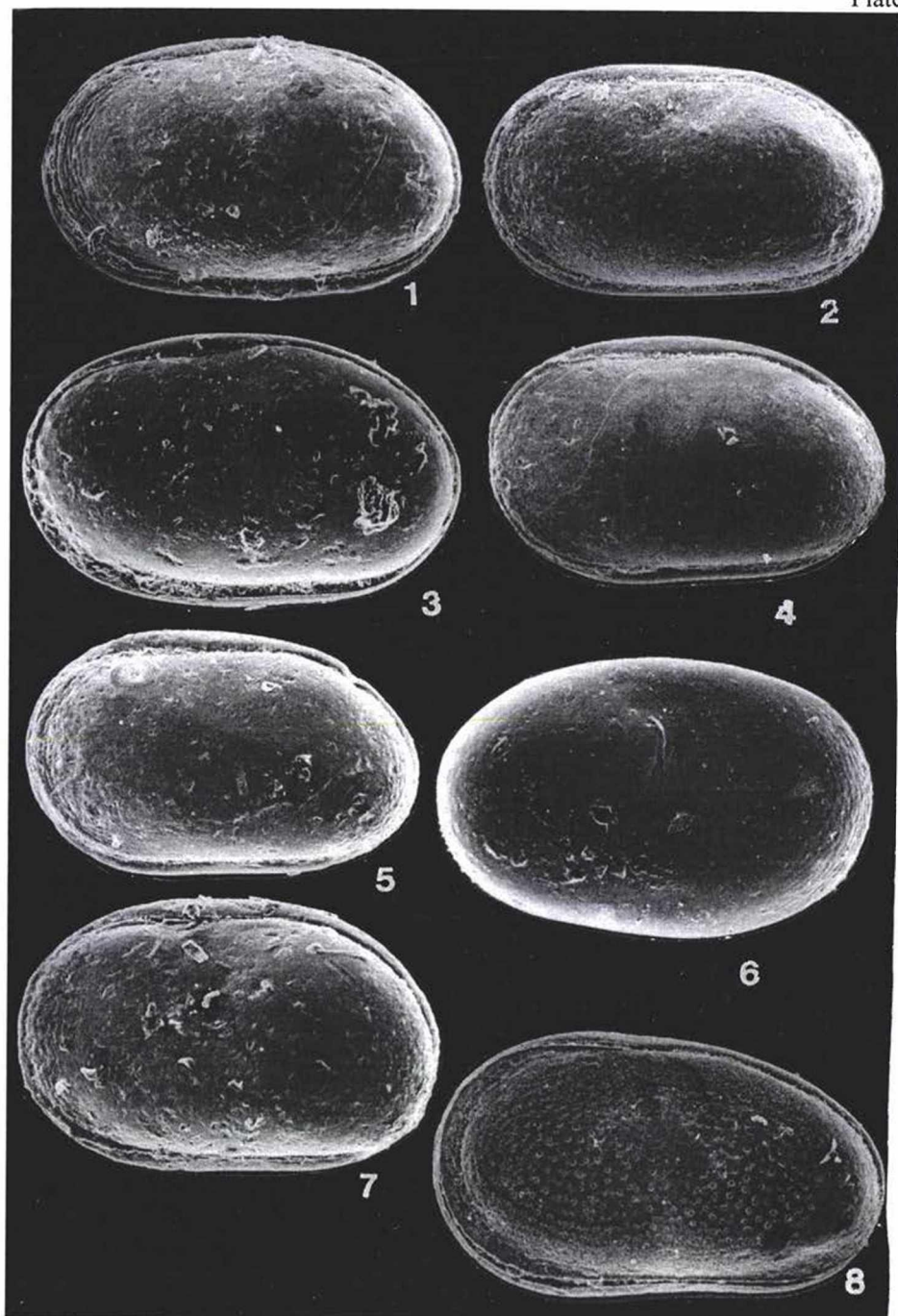


Plate 2

Fig. 1. *Cytherella* ex gr. *beyrichi* (REUSS, 1851)

Left valve. 61x.

Eger Wind brickyard borehole 69.8–70.5 m

Fig. 2. *Cytherella* ex gr. *draco* PIETRZENIUK, 1969.

Carapace from the left valve. 51x.

Budapest, Metro H-1 borehole 25.0–28.0 m

Figs 3–5. *Cytherella hyalina* MÉHES, 1941

Fig. 3. Carapace from the left valve. 56x

Budapest, Metro H-7/1 borehole 33.3–34.3 m

Fig. 4. Carapace from the left valve. 60x

Budapest, Metro H-3 borehole 91.0–94.8 m

Fig. 5. Carapace from the left valve. 54x

Varbó-50 borehole 416.1–420.0 m

Figs 6–8. *Cytherella mehesi* BRESTENSKÁ, 1975

Fig. 6. Right valve. 56x

Varbó-50 borehole 479.6–482.2 m

Fig. 7. Right valve. 50x

Budapest, Metro H-3 borehole 59.6–61.6 m

Fig. 8. Carapace from the left valve. 59x

Budapest, Metro H-1 borehole 32.2–34.8 m

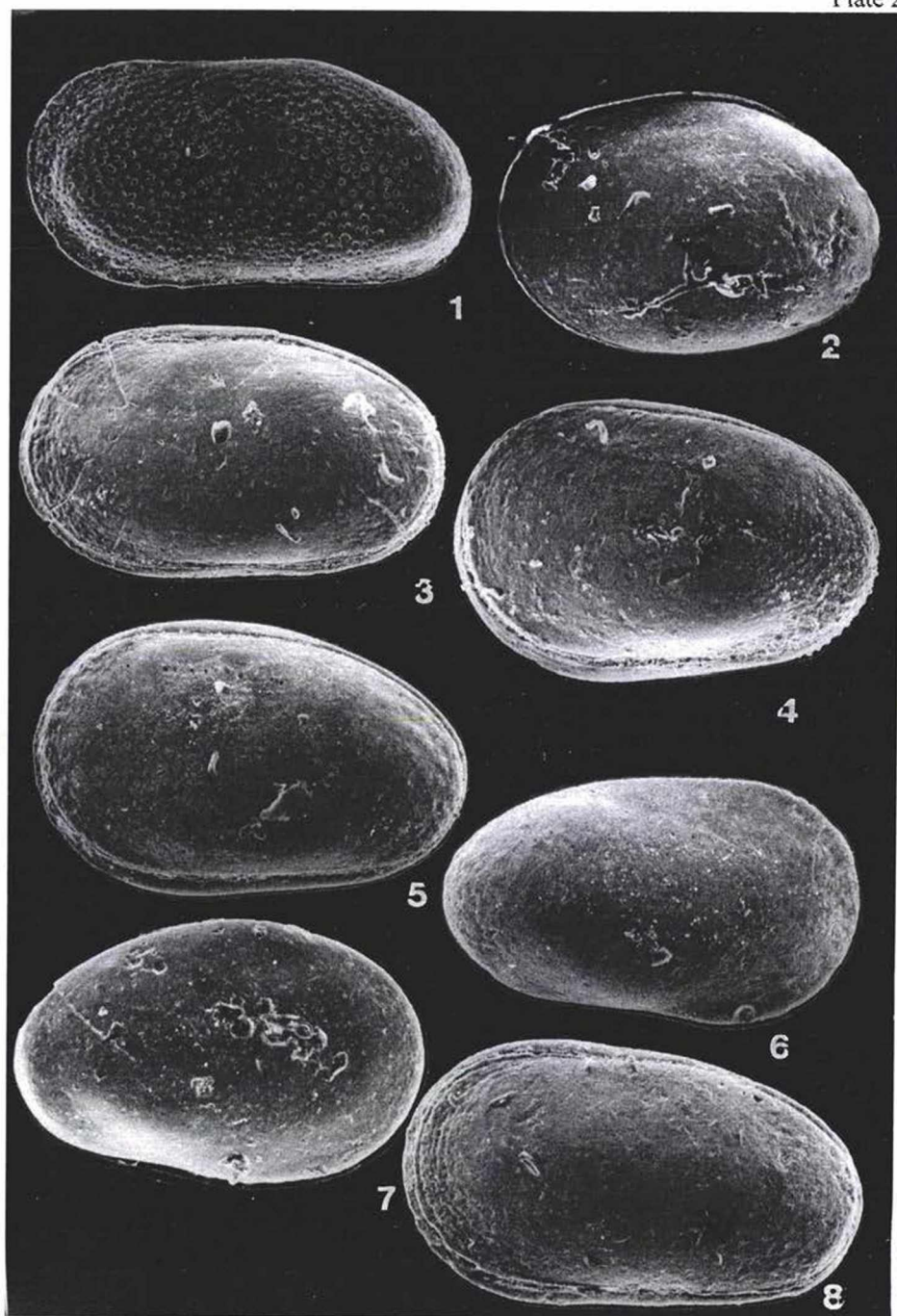


Plate 3

Figs 1–4. *Cytherella transversa* SPEYER, 1863

Fig. 1. Left valve. 74x

Alcsútdoboz–3 borehole 487.1 m

Fig. 2. Carapace from the left valve. 56x

Budapest, Metro H–7 borehole 60.0–63.0 m

Fig. 3. Right valve. 65x

Alcsútdoboz–3 borehole 487.1 m

Fig. 4. Inside of the right valve. 68x

Alcsútdoboz–3 borehole 455.5 m

Fig. 5. *Cardobairdia boldi* PIETRZENIUK, 1969

Carapace from the right valve. 108x

Budapest, Metro H–7/1 borehole 50.0–52.0 m

Fig. 6. *Bairdia rupelica* MONOSTORI, 1982

Carapace from the right valve. 50x

Budapest, Metro H–3 borehole 65.3–68.3 m

Fig. 7. *Bairdia?* sp. 1.

Left valve. 63x

Kiscell–1 borehole 83.4 m

Plate 3

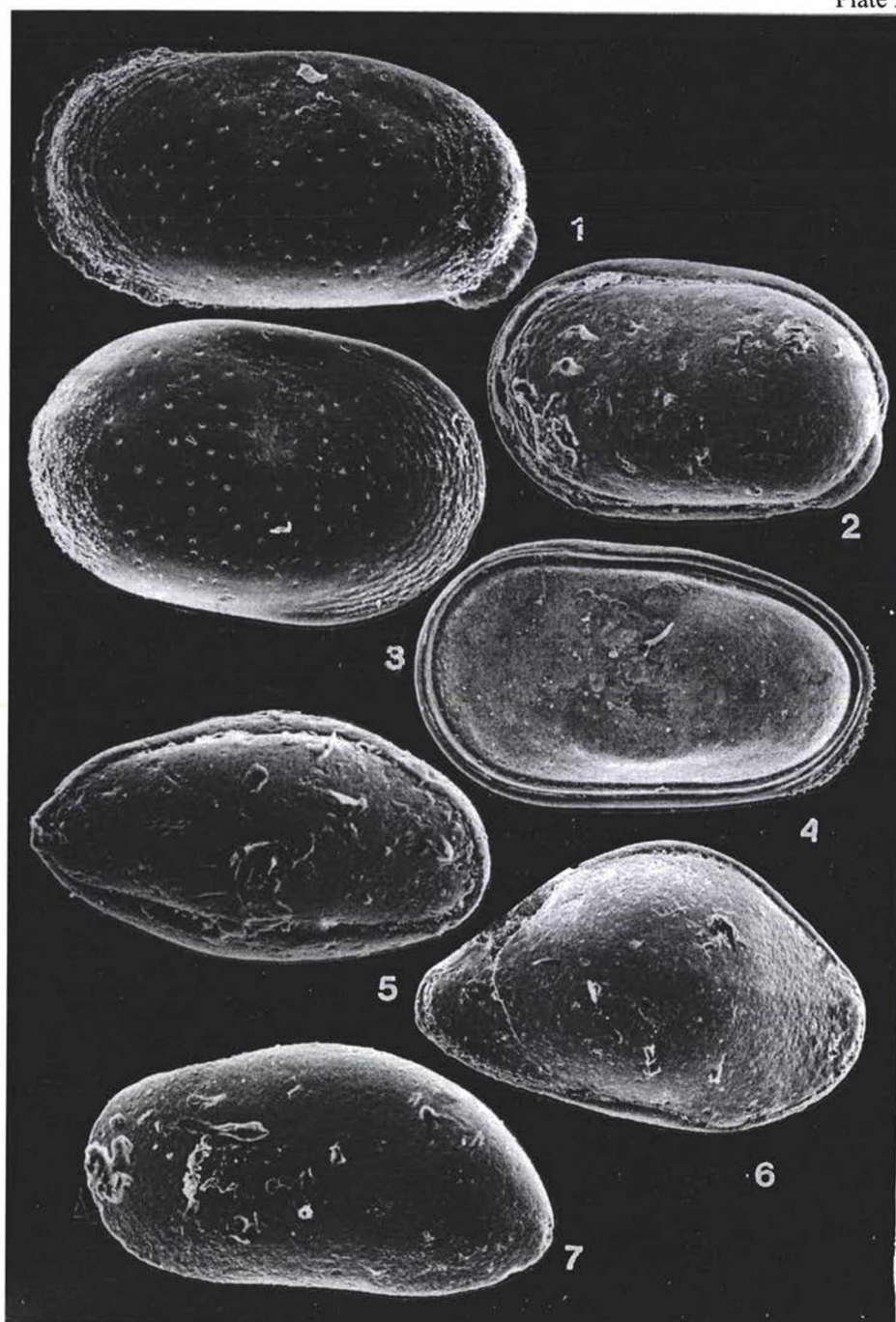


Plate 4

Figs 1–5. *Cytheromorpha subalpina dorsodepressa* MONOSTORI, 1985

Fig. 1. Right valve. 126x

Kiseged 1987 outcrop, sample N°3.

Fig. 2. Right valve. 130x.

Kiscell–1 borehole 55.5 m

Fig. 3. Carapace from the dorsal side. 142x

Budapest, Zugliget outcrop, sample 7

Fig. 4. Carapace from the left valve. 131x

Kiscell–1 borehole 57.5 m

Fig. 5. Inside of the left valve. 137x

Kiscell–1 borehole 57.5 m

Figs 6–7. *Paijenborchella (Eopaijenborchella) sturovensis* BRESTENSKÁ, 1975

Fig. 6. Left valve. 108x

Eger Wind brickyard borehole 71.5–73.1 m

Fig. 7. Right valve. 112x

Eger Wind brickyard borehole 76.3–77.1 m

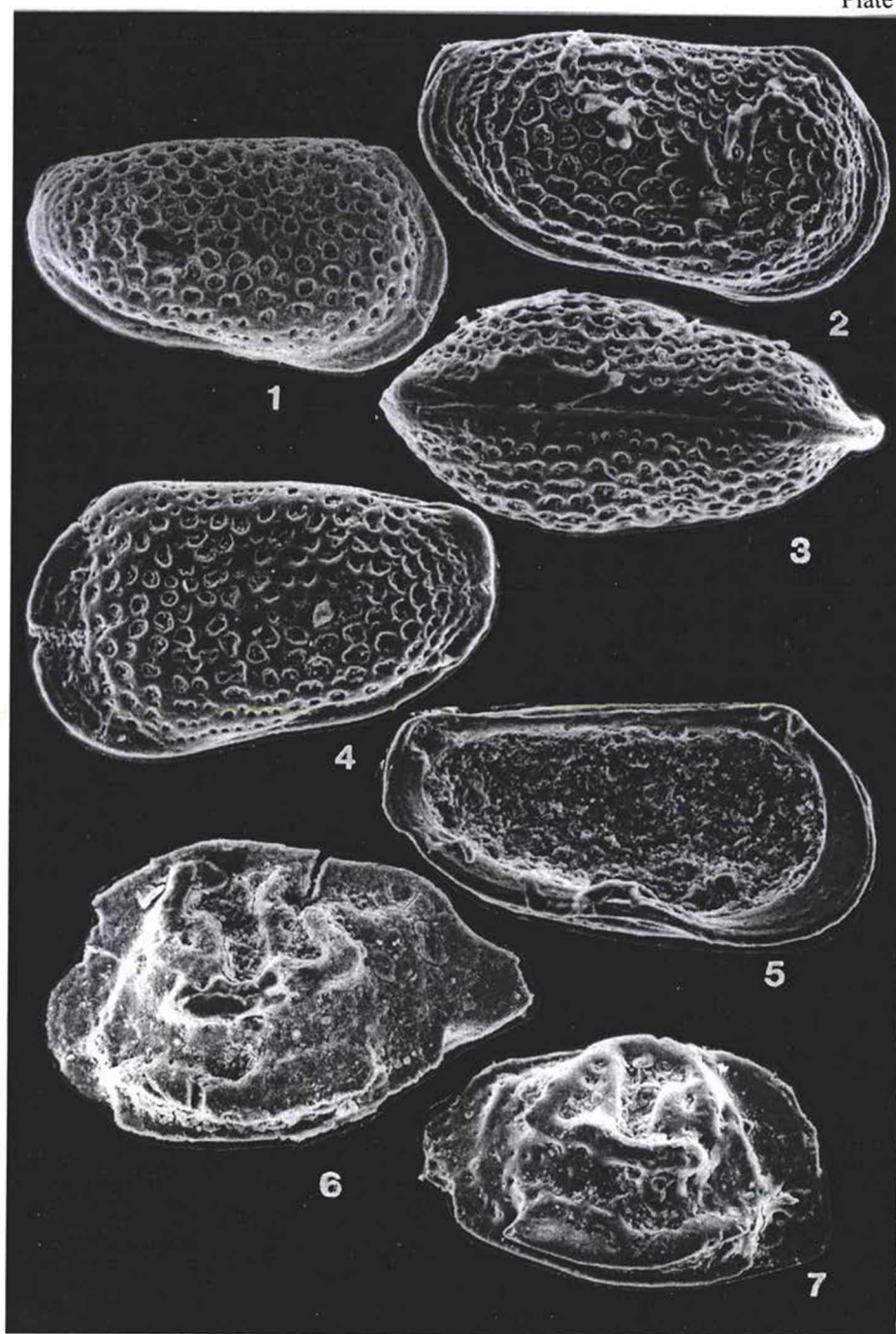


Plate 5

Fig. 1. *Callistocythere* sp.

Right valve. 86x

Budapest, Városmajor-1 borehole 96.7–98.7 m

Figs 2–7. *Eucytheridea reticulata* GOERLICH, 1953

Fig. 2. Left valve. 94x

Kiseged road cut section, sample 4

Fig. 3. Carapace from the right valve. 65x

Kiseged road cut section, sample 3a

Fig. 4. Carapace from the right valve. 77x

Kiseged road cut section, sample 12

Fig. 5. Inside of the right valve. 74x

Kiseged road cut section, sample 12

Fig. 6. Left valve. 77x

Kiseged road cut section, sample 12

Fig. 7. Carapace from the dorsal side. 63x

Kiseged 1987 outcrop, sample 1

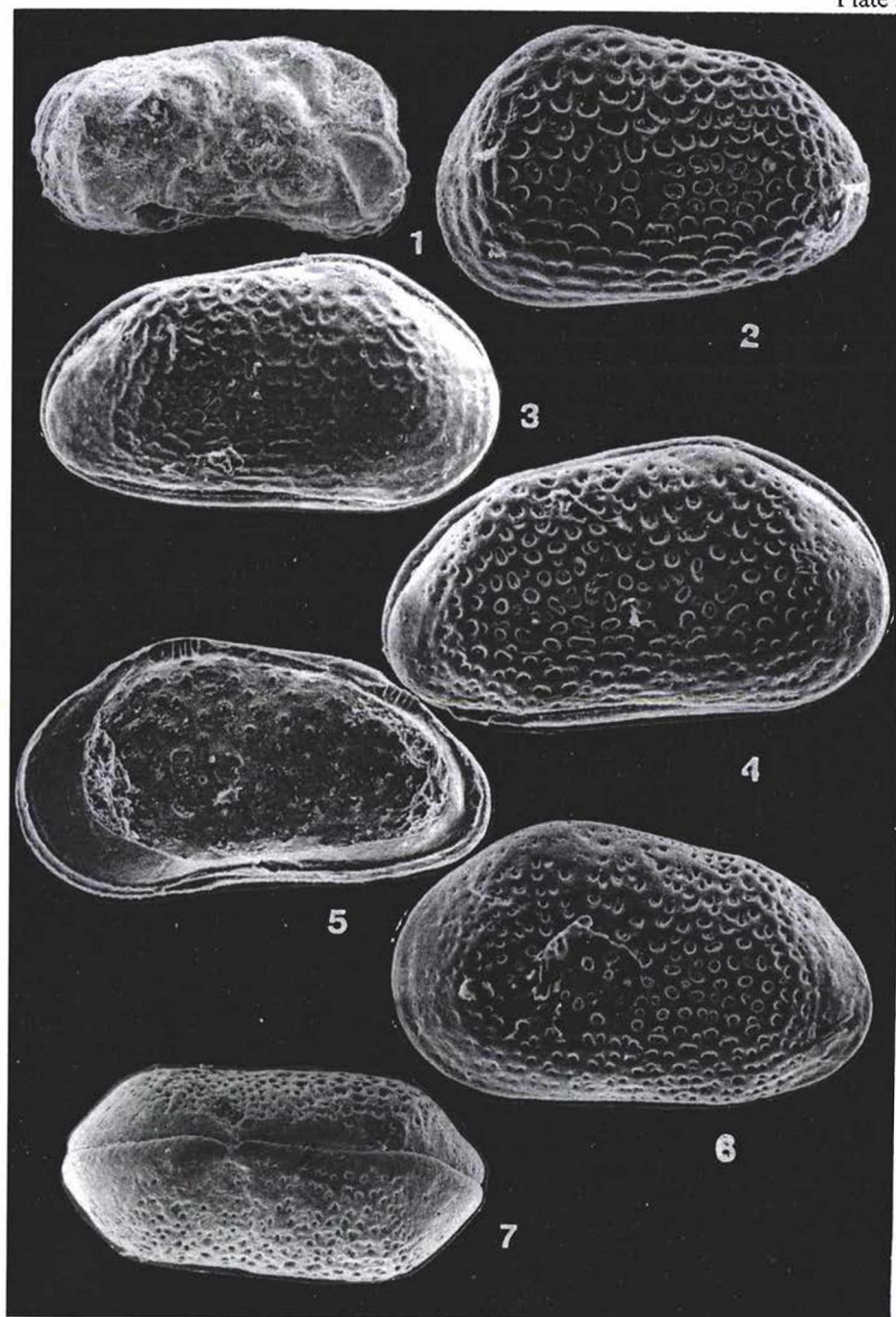


Plate 6

Figs 1–2. *Eucytheridea reticulata* GOERLICH, 1953

Fig. 1. Left valve. 72x

Kiseged road cut section, sample 38

Fig. 2. Carapace from the dorsal side. 63x

Kiseged road cut section, sample 3a

Fig. 3. *Cytheridea* ex gr. *mülleri* (VON MÜNSTER, 1830)

Right valve 74x

Szentendre–2 borehole 1070.0 m

Fig. 4. *Cytheridea* ex gr. *pernota* OERTLI and KEY, 1956.

Left valve. 56x

Varbó–50 borehole 541.7–543.2 m

Figs 5–8. *Miocyprideis rara* (GOERLICH, 1953)

Fig. 5. Carapace from the right side. 85x

Pilisszentkereszt Sz 1–74 section, sample h

Fig. 6. Left valve. 77x

Pilisszentkereszt Sz 1–74 section, sample h

Fig. 7. Left valve. 72x

Pilisszentkereszt Sz 1–74 section, sample i₂

Fig. 8. Carapace from the left side. 77x

Pilisszentkereszt Sz 1–74 section, sample i₂

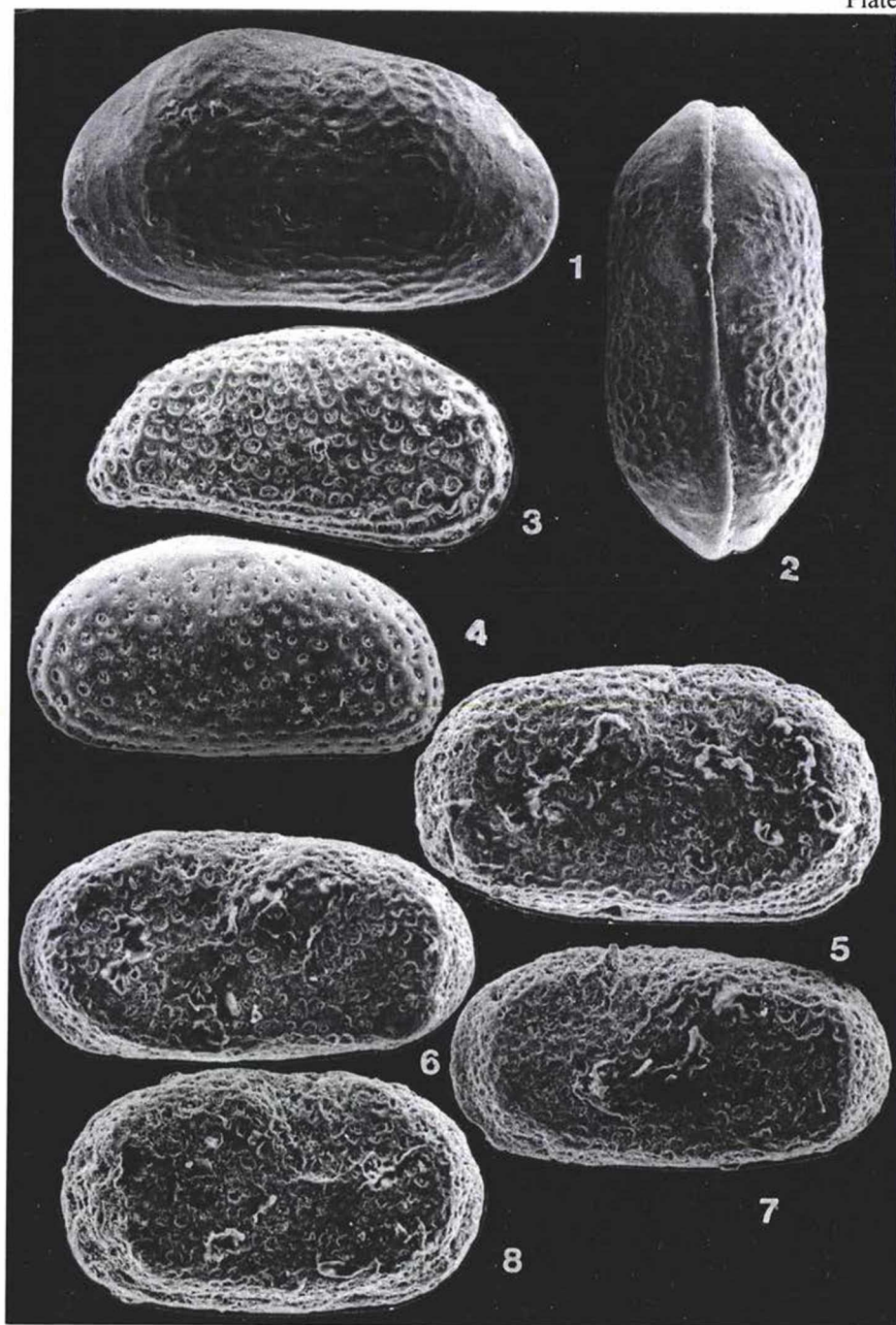


Plate 7

Fig. 1. *Miocyprideis rara* (GOERLICH, 1953).

Carapace from the dorsal side. 74x

Pilisszentkereszt Sz 1–74 section, sample i₂

Figs 2–3. *Cyamocytheridea punctatella* (BOSQUET, 1852)

Fig. 2. Carapace from the right valve. 74x

Pilisszentkereszt Sz 1–74 section, sample i

Fig. 3. Carapace from the dorsal side. 74x

Pilisszentkereszt Sz 1–74 section, sample i₂

Figs 4–7. *Hemicyprideis anterocostata* MONOSTORI, 1982

Fig. 4. Carapace from the dorsal side. 59x

Pilisszentkereszt Sz 1–74 section, sample h

Fig. 5. Carapace from the dorsal side. 56x

Pilisszentkereszt Sz 1–74 section, sample i

Fig. 6. Carapace from the right valve. 56x

Pilisszentkereszt Sz 1–74 section, sample i

Fig. 7. Carapace from the right valve. 50x

Pilisszentkereszt Sz 1–74 section, sample i₂

Fig. 8. *Hemicyprideis helvetica* (LIENENKLAUS, 1895)

Carapace from the dorsal side. 70x

Pilisszentkereszt Sz 1–74 section, sample j

Plate 7

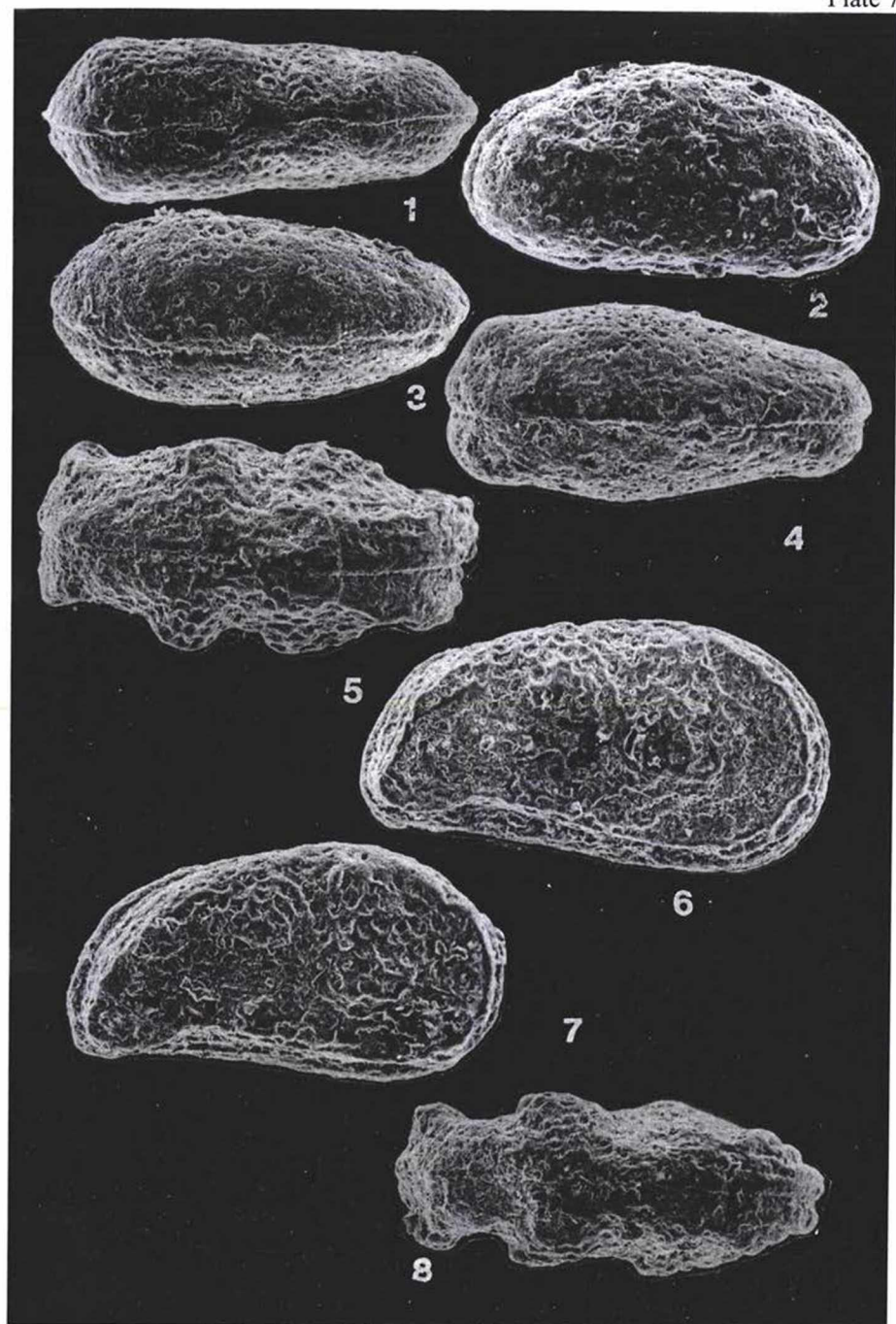


Plate 8

Figs 1–4. *Hemicyprideis helvetica* (LIENENKLAUS, 1895)

- Fig. 1. Carapace from the dorsal side. 81x
Pilisszentkereszt Sz 1–74 section, sample i
Fig. 2. Right valve. 65x
Pilisszentkereszt Sz 1–74 section, sample j
Fig. 3. Carapace from the right valve. 72x
Pilisszentkereszt Sz 1–74 section, sample h
Fig. 4. Left valve. 74x
Pilisszentkereszt Sz 1–74 section, sample j

Figs 5–8. *Hemicyprideis parvula* MALZ & TRIEBEL, 1970

- Fig. 5. Carapace from the right side. 59x
Pilisszentkereszt Sz 1–74 section, sample i₂
Fig. 6. Carapace from the dorsal side. 54x
Pilisszentkereszt Sz 1–74 section, sample i₂
Fig. 7. Carapace from the left valve. 59x
Pilisszentkereszt Sz 1–74 section, sample i
Fig. 8. Right valve. 56x
Pilisszentkereszt Sz 1–74 section, sample i₂

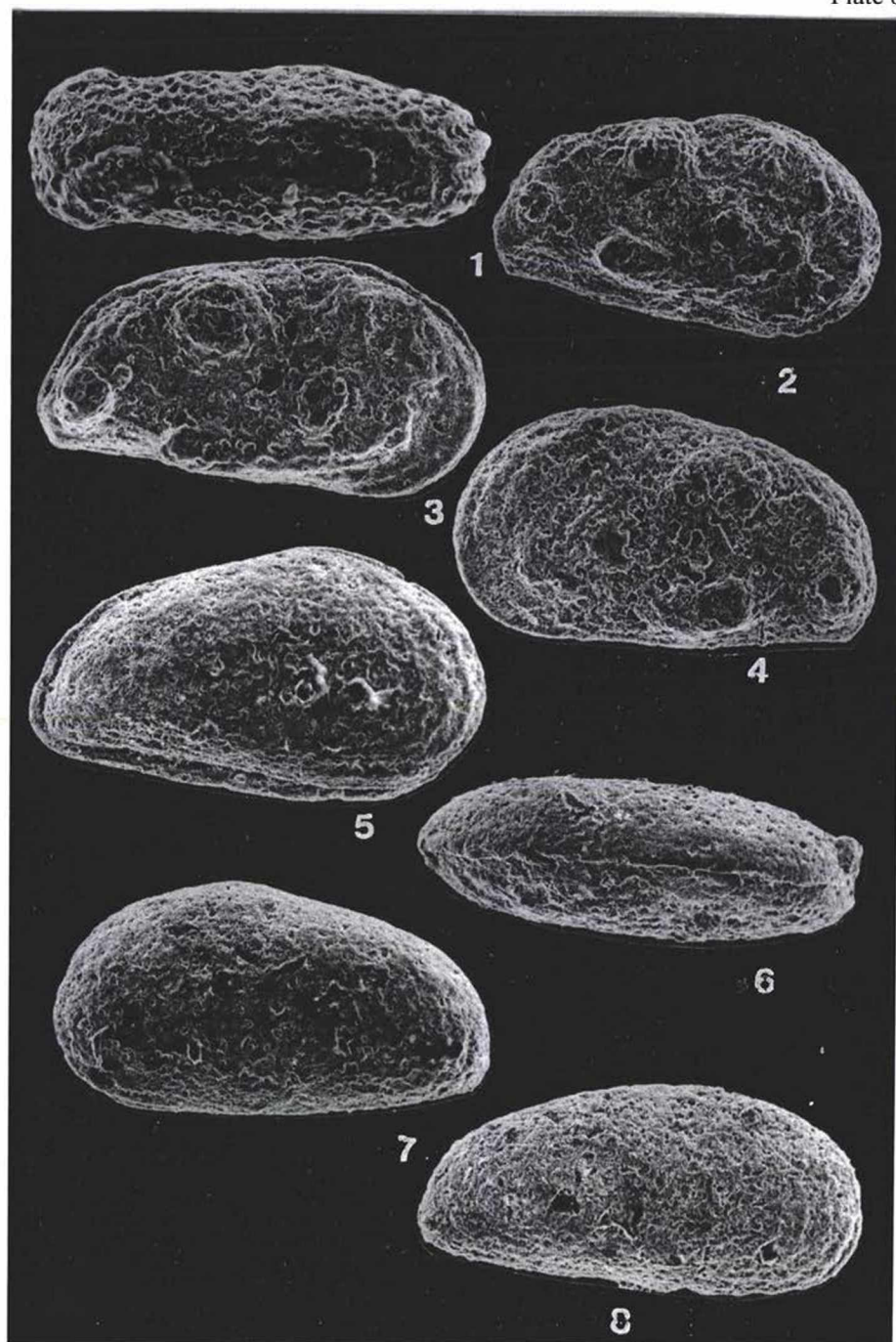


Plate 9

Figs 1–2. *Schuleridea rauracica* OERTLI, 1956

- Fig. 1. Carapace from the right valve. 59x
Pilisszentkereszt Sz 1–74 section, sample i₂
Fig. 2. Carapace from the right valve. 54x
Pilisszentkereszt Sz 1–74 section, sample j

Figs 3–5. *Schuleridea rauraciformis* MONOSTORI, 1985

- Fig. 3. Carapace from the dorsal side. 54x
Kiseged road cut section, sample 3b
Fig. 4. Carapace from the right valve. 47x
Kiseged road cut section, sample 12
Fig. 5. Carapace from the right valve. 41x
Budapest, Városmajor–1 borehole 97.8–98.5 m

Figs 6–7. *Cuneocythere (Cuneocythere) marginata anterodepressa* MONOSTORI, 1982

- Fig. 6. Carapace from the right valve. 81x
Kiseged 1987 outcrop, sample 3
Fig. 7. Left valve. 94x
Kiseged road cut section, sample 12

Plate 9

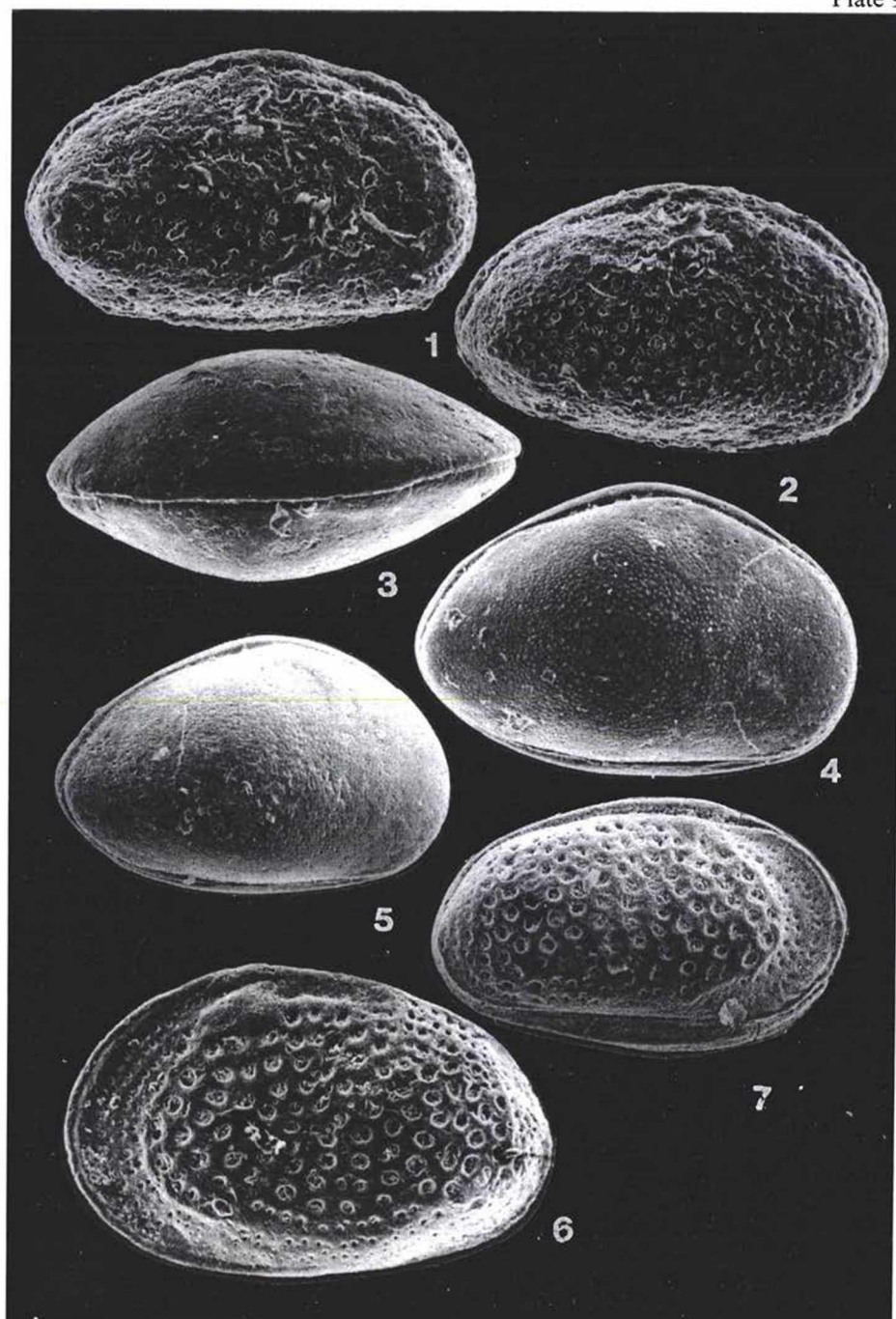


Plate 10

Figs 1–3. *Cuneocythere (Cuneocythere) marginata anterodepressa* MONOSTORI, 1982

Fig. 1. Carapace from the right valve. 96x

Kiseged road cut section, sample 12

Fig. 2. Left valve. 94x

Kiseged road cut section, sample 3a

Fig. 3. Carapace from the dorsal side. 94x

Kiseged road cut section, sample 12

Fig 4. *Cuneocythere (Cuneocythere) truncata* LIENENKLAUS, 1894

Carapace from the right valve. 80x

Szentendre–2 borehole 1070.0 m

Figs 5–7. *Krithe papillosa* (Bosquet, 1852)

Fig. 5. Left valve. 63x

Pilisszentkereszt Sz 1–74 section, sample i₂

Fig. 6. Carapace from the right valve. 62x

Pilisszentkereszt Sz 1–74 section, sample h

Fig. 7. Carapace from the dorsal side. 59x

Pilisszentkereszt Sz 1–74 section, sample j

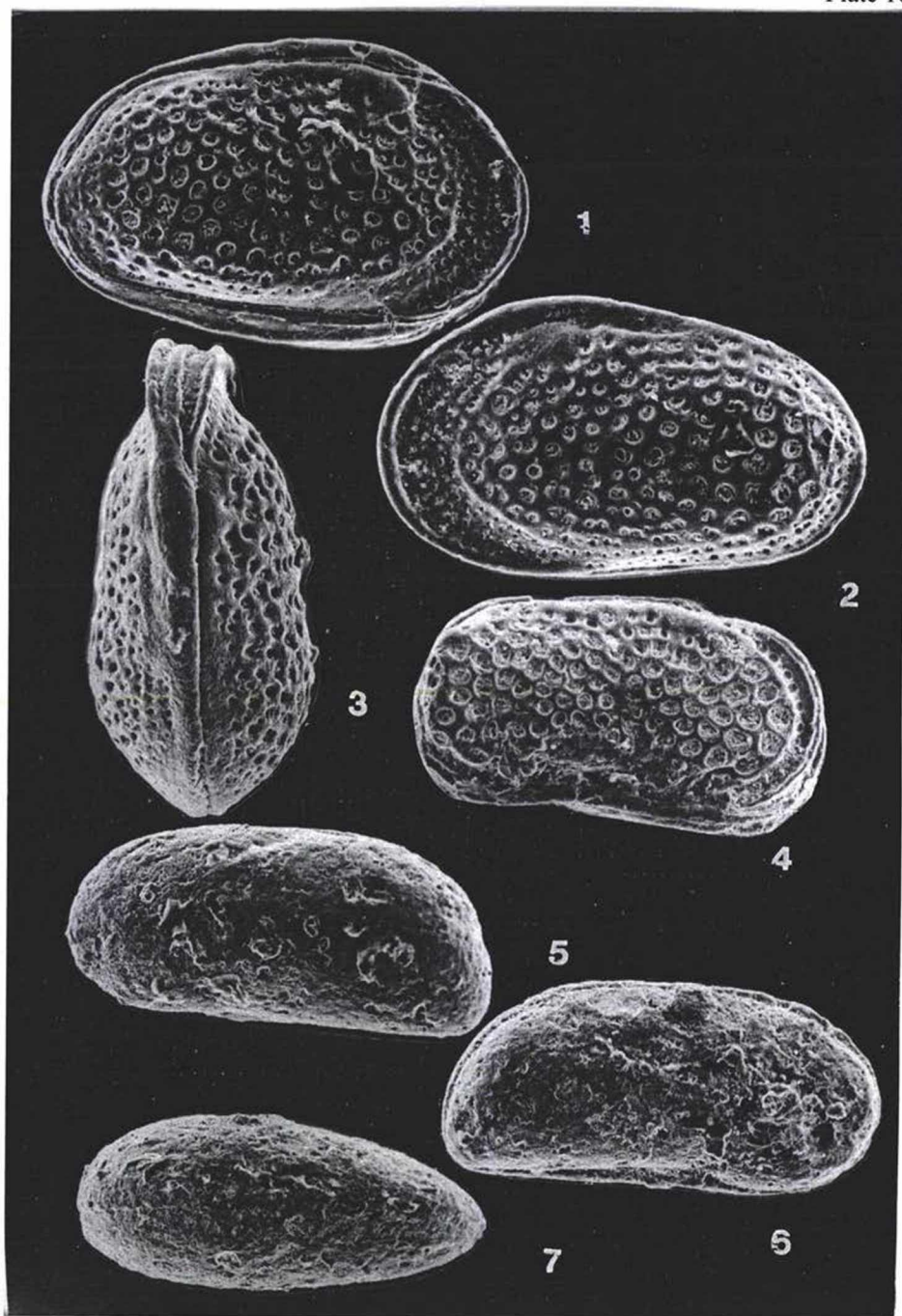


Plate 11

Figs 1–6. *Krithe pernoides* (BORNEMANN, 1855)

Fig. 1. Carapace from the dorsal side. 68x

Budapest, Metro H–3 borehole 91.0–94.8 m

Fig. 2. Left valve. 83x

Cserépváralja–2 borehole 262.0–262.2 m

Fig. 3. Left valve. 65x

Budapest, Metro H–3 borehole 99.8–102.1 m

Fig. 4. Left valve. 77x

Budapest, Metro H–7/1 borehole 54.5–55.5 m

Fig. 5. Right valve. 90x

Szentendre–2 borehole 710.0 m

Fig. 6. Right valve. 70x

Budapest, Metro H–8 borehole 24.0–28.0 m

Fig. 7. *Krithe* sp. 1.

Carapace from the right valve. 90x

Szentendre–2 borehole 1068.0 m

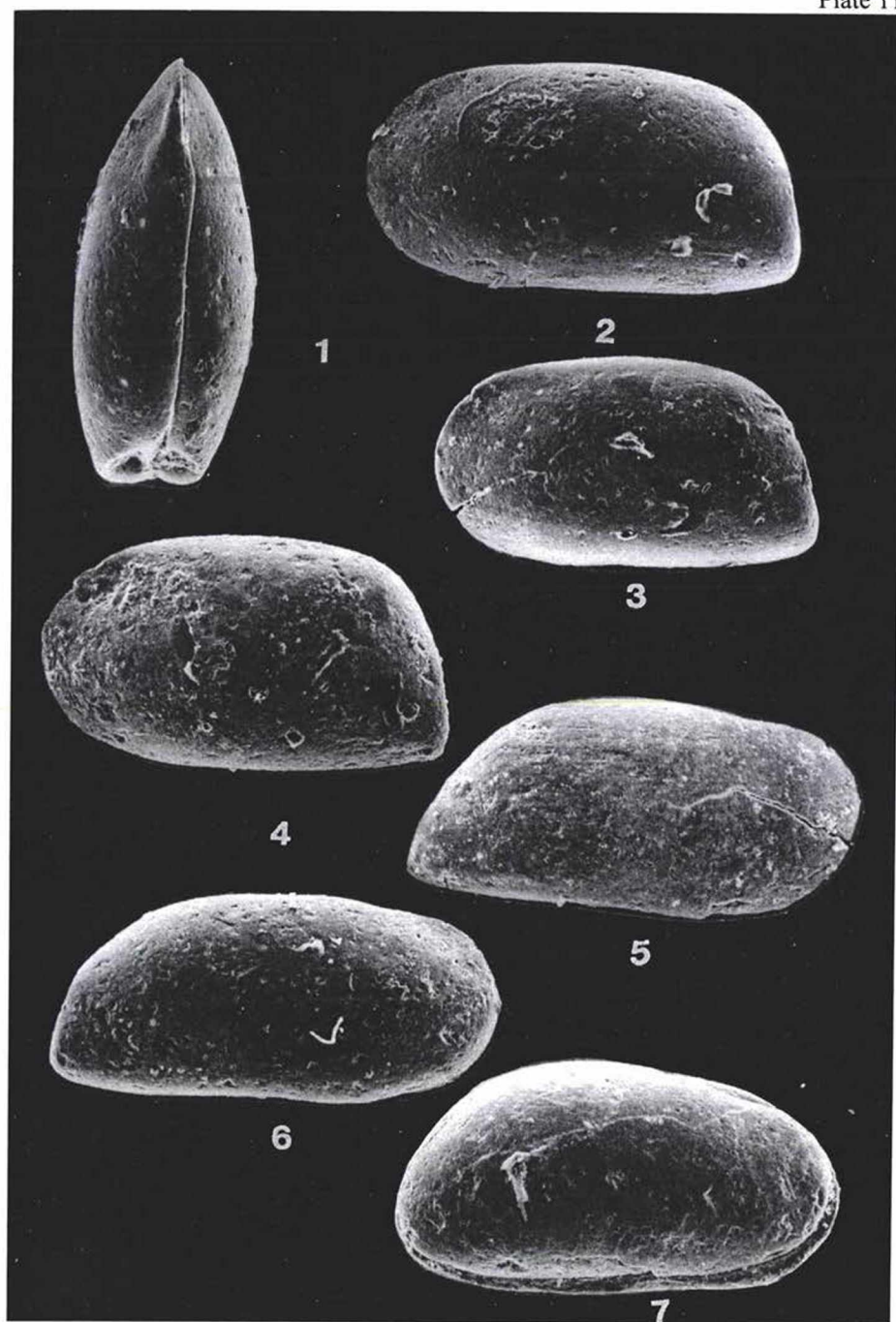


Plate 12

Figs 1–2. *Krithe* sp. 2.

Fig. 1. Inside of the right valve. x
Eger Wind brickyard borehole 73.1–73.6 m

Fig. 2. Right valve. x
Eger Wind brickyard borehole 76.3–77.1 m

Figs 4–5. *Parakrithe* sp. 1.

Fig. 4. Left valve. 94x
Kiseged manganiferous clay, sample 4
Fig. 5. Carapace from the right valve. 90x
Budapest, Metro H–7 borehole 94.0–99.0 m

Fig. 6. *Trachyleberis* cf. *spinosa* (LIENENKLAUS, 1900)

Left valve. 65x
Budapest, Metro H–9 borehole 19.5–20.0 m

Fig. 7. *Costa hermi* Witt, 1967

Left valve. 66x
Budapest, Metro H–9 borehole 57.6–59.8 m

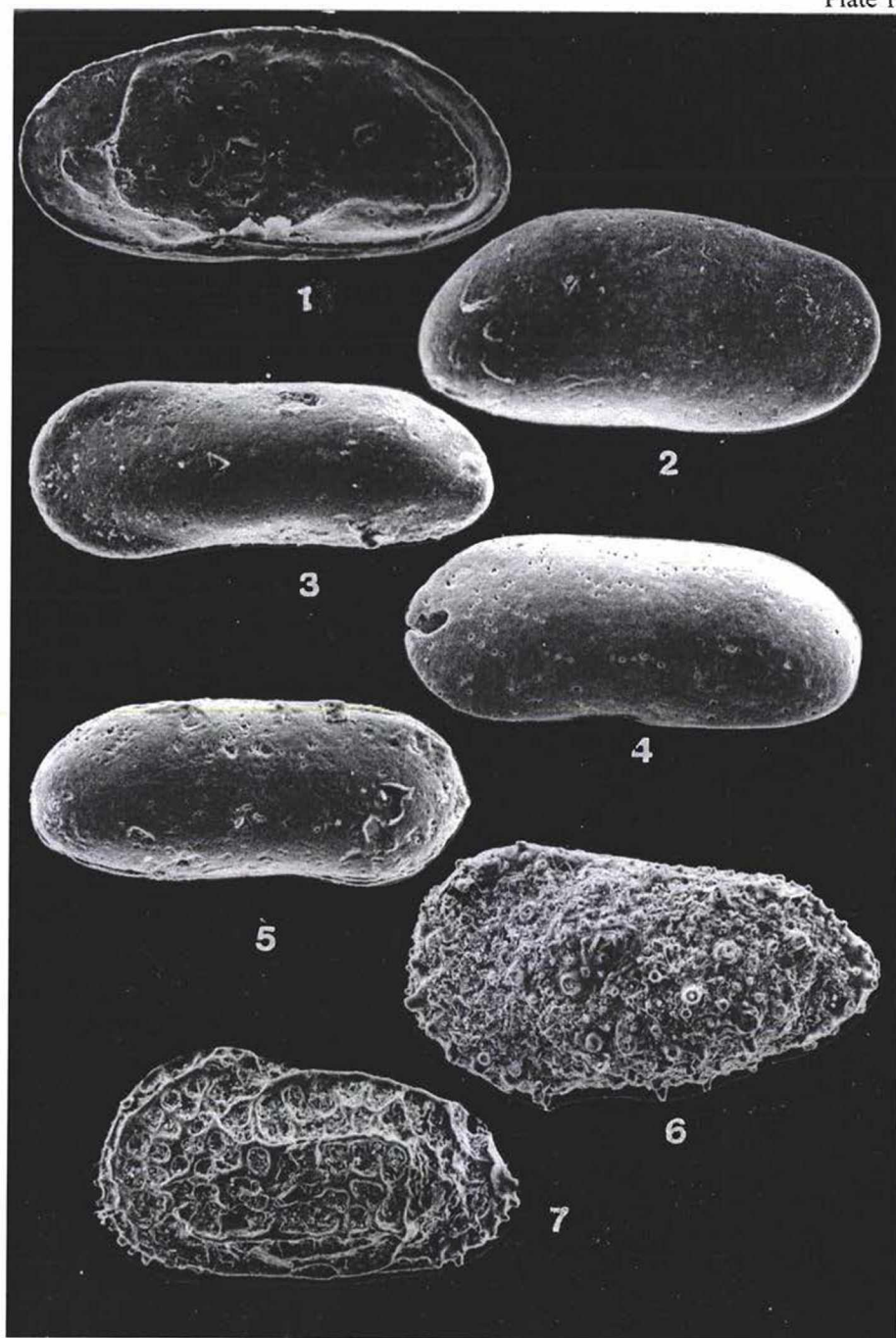


Plate 13

Figs 1–7. *Costa hermi* WITT, 1967

Fig. 1. Left valve. 63x

Budapest, Metro H–2 borehole 32.7–34.6 m

Fig. 2. Left valve. 59x

Szöllőcske outcrop, sample 11

Fig. 3. Right valve. 50x

Budapest, Metro H–1 borehole 56.8–60.0 m

Fig. 4. Right valve. 59x

Szöllőcske outcrop, sample 14

Fig. 5. Right valve. 62x

Eger Wind brickyard borehole 50.3–50.9 m

Fig. 6. Inside of the left valve. 57x

Esztergom–123 borehole 410.0 m

Fig. 7. Carapace from the dorsal side. 59x

Budapest, Metro H–7 borehole 55.0–60.0 m

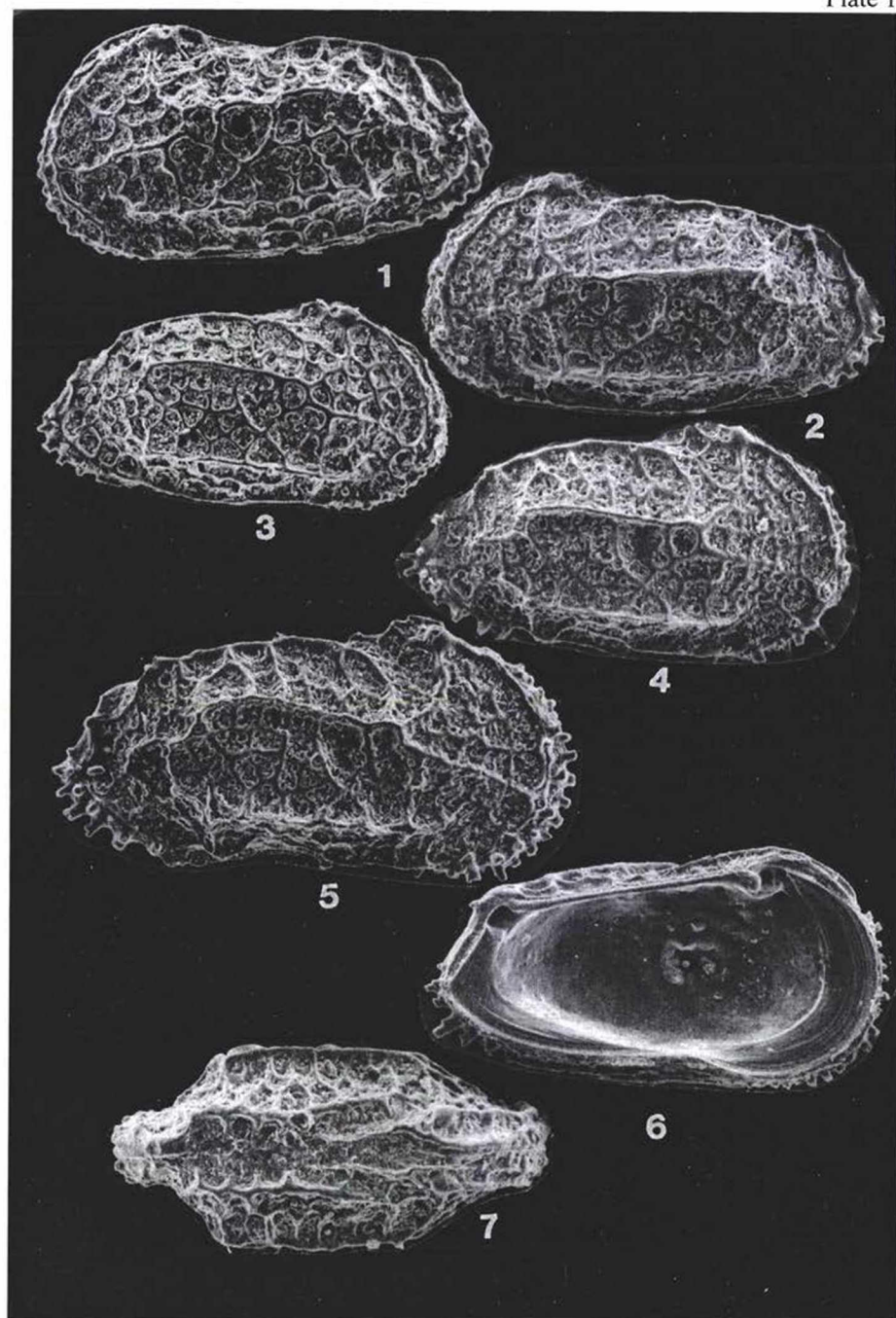


Plate 14

Fig. 1. *Costa hermi* WITT, 1967

Inside of the right valve. 61x

Esztergom–123 borehole 398.5 m

Figs 2–4. *Agrenocythere ordinata* (DELTEL, 1961)

Fig. 2. Carapace from the left valve. 54x

Budapest, Metro H–7 borehole 32.0–36.0 m

Fig. 3. Left valve. 63x

Eger Wind brickyard borehole 76.3–77.1 m

Fig. 4. Right valve. 72x

Eger Wind brickyard borehole 75.4–76.3 m

Figs 5–7. *Pterygocythereis* cf. *ceratoptera* (BOSQUET, 1852)

Fig. 5. Carapace from the dorsal side. 63x

Pilisszentkereszt sz 1–74 section, sample h

Fig. 6. Left valve. 62x

Pilisszentkereszt Sz 1–74 section, sample h

Fig. 7. Carapace from the right side. 63x

Pilisszentkereszt Sz 1–74 section, sample i₂

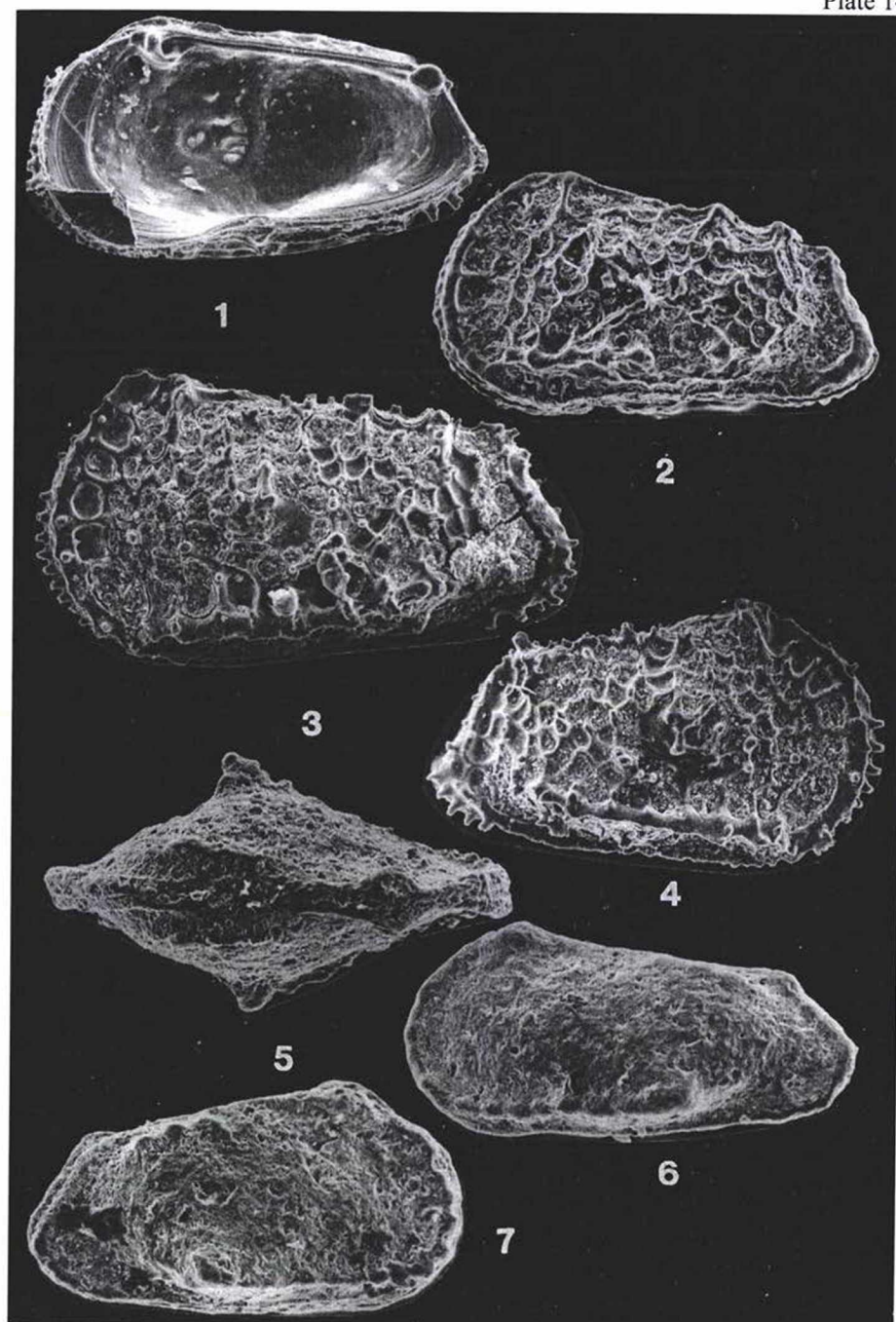


Plate 15

Figs 1–2. *Pterygocythereis* n. sp. ?

Fig. 1. Carapace from the right valve. 41x

Kiseged 1987 outcrop, sample N°3

Fig. 2. Carapace from the left valve. 44x

Kiscell–1 borehole 59.6 m

Fig. 3. *Echinocythereis ligula* LIENENKLAUS, 1896

Carapace from the right side. 41x

Pilisszentkereszt Sz 1–74 section, sample h

Figs 4–7. *Henryhowella asperrima* (REUSS, 1850)

Fig. 4. Right valve. 68x

Szölöske outcrop, sample 11

Fig. 5. Left valve. 81x

Cserépváralja–1 borehole 387.5–387.7 m

Fig. 6. Left valve. 81x

Budapest, Metro H–9 borehole 47.4–49.9 m

Fig. 7. Inside of the left valve. 65x

Szölöske outcrop, sample 14

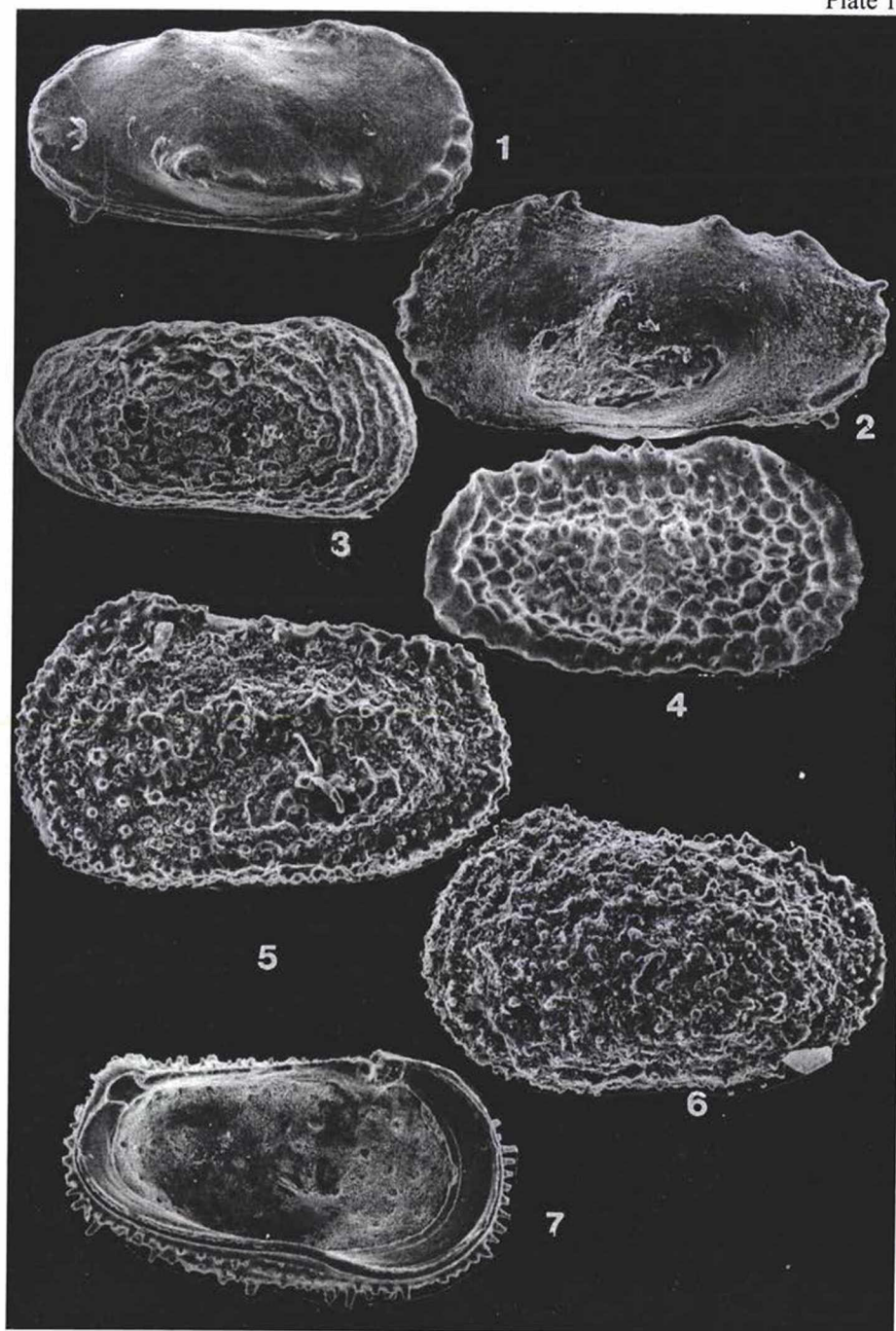


Plate 16

Figs 1–3. *Henryhowella asperrima* (REUSS, 1850)

Fig. 1. Left valve. 74x

Budapest, Metro H–1 borehole 56.8–60.0 m

Fig. 2. Left valve. 59x

Szentendre–2 borehole 809.0 m

Fig. 3. Carapace from the dorsal side. 77x

Budapest, Metro H–9 borehole 19.5–20.0 m

Figs 4–5. *Protobuntonia sublatissima arcuatocosta* (BRESTENSKÁ, 1975)

Fig. 4. Left valve. 94x

Eger Wind brickyard borehole 73.1–73.6 m

Fig. 5. Left valve. 86x

Budapest, Metro H–3 borehole 96.8–99.8 m

Fig. 6. *Leguminocythereis sorneana* Oertli, 1956

Left valve. 43x

Pilisszentkereszt Sz 1–74 section, sample i

Fig. 7. *Leguminocythereis? cellulataformis* n. sp.

Carapace from the right valve. 50x

Kiseged road cut section, sample 12

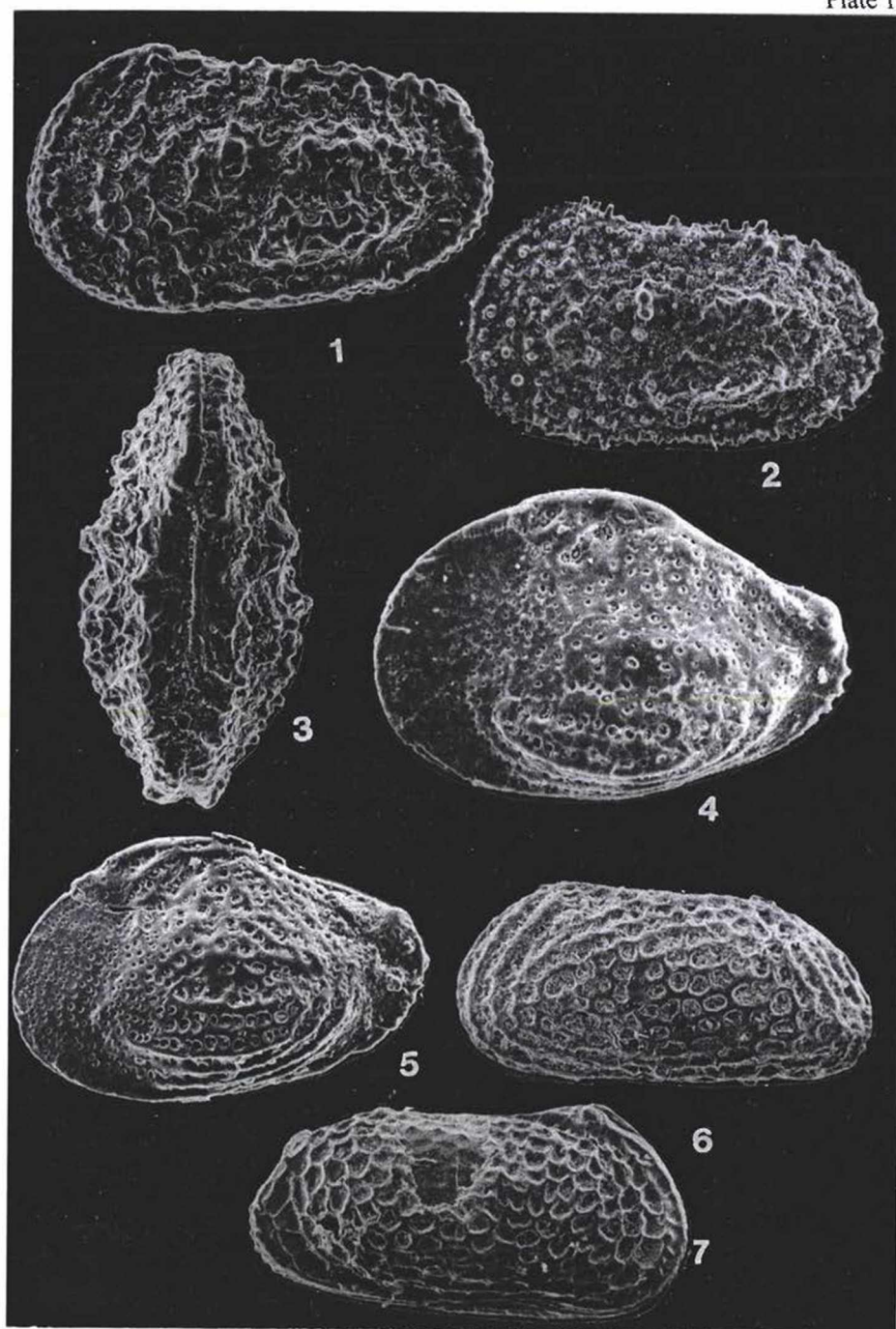


Plate 17

Fig. 1. *Leguminocythereis* ? *cellulataformis* n. sp. Holotypus.

Carapace from the left valve. 81x

Kisged road cut section, sample 12

Figs 2–6. *Megahemicythere oertlii* WITT, 1967

Fig. 2. Carapace from the right side. 33x

Budapest, Városmajor–1 borehole 96.7–97.8 m

Fig. 3. Carapace from the right side. 30x

Kisged 1987 outcrop, sample 1

Fig. 4. Carapace from the dorsal side. 38x

Kisged road cut section, sample 12

Fig. 5. Left valve. 36x

Kisged 1987 outcrop, sample N°1

Fig. 6. Left valve. 36x

Budapest, Törökvész–8 borehole 3.5 m

Fig. 7. *Pokornyella* ? sp. 1.

Carapace from the right valve. 63x

Budapest, Városmajor–1 borehole 97.8–98.5 m

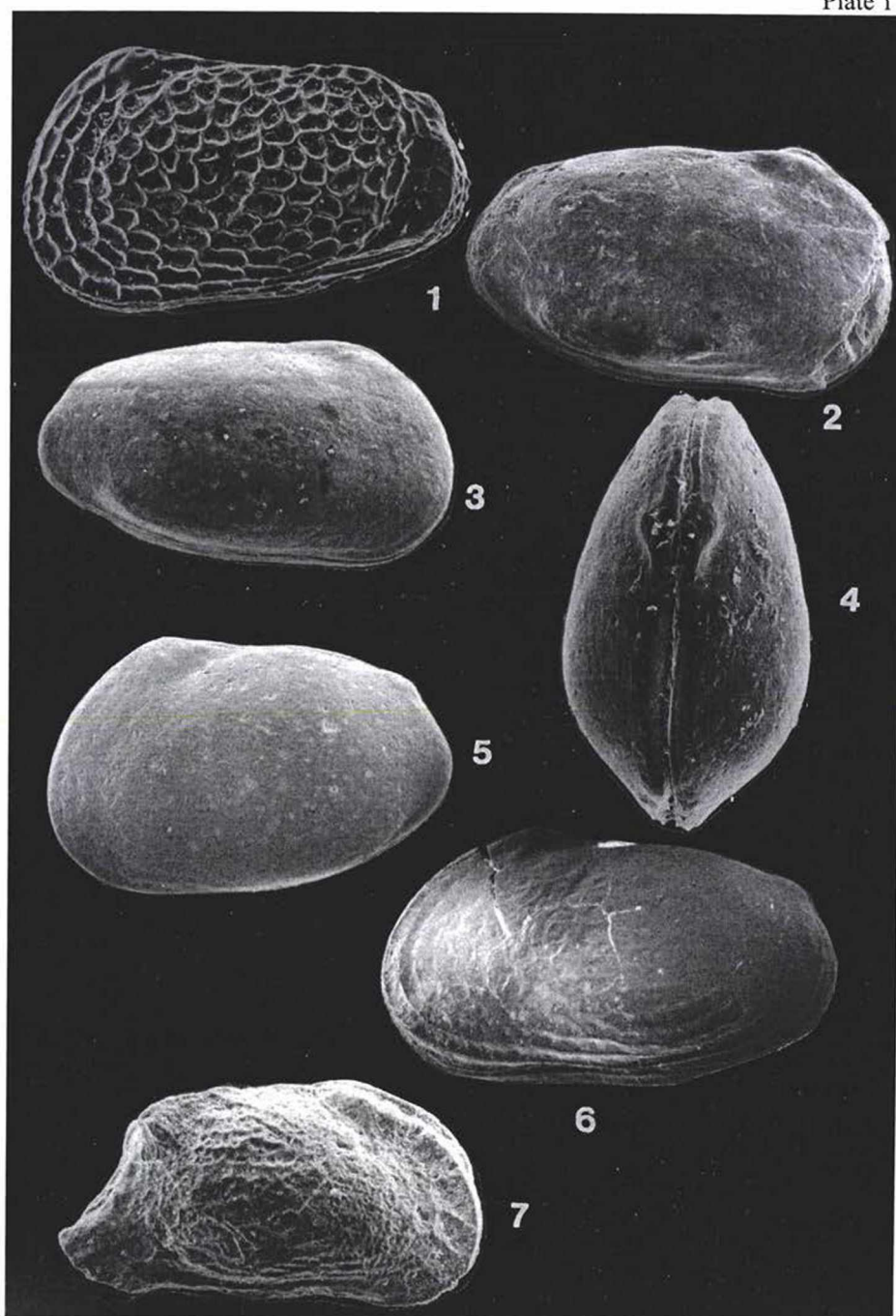


Plate 18

Fig. 1. *Grinioneis* sp.

Carapace from the left valve. 54x

Budapest, Városmajor-1 borehole 97.8–98.5 m

Fig. 2. *Hornibrookella* ex gr. *macropora* (BOSQUET, 1852)

Carapace from the left valve. 54x

Budapest, Ibolya u. quarry 1.2 m

Figs 3–6. *Bosquetina brestenscae* n. sp.

Fig. 3. Carapace from the right valve. 44x

Budapest, Városmajor-1 borehole 96.7–97.8 m

Fig. 4. Carapace from the right valve. 50x

Kiseged 1987 outcrop, sample 1

Fig. 5. Carapace from the left valve. 59x Holotypus.

Kiseged road cut section, sample 13

Fig. 6. Carapace from the dorsal side. 53x

Kiseged 1987 outcrop, sample 1

Fig. 7. *Bosquetina zalanyii* BRESTENSKÁ, 1975

Carapace from the dorsal side. 42x

Kiseged 1987 outcrop, sample N^o1

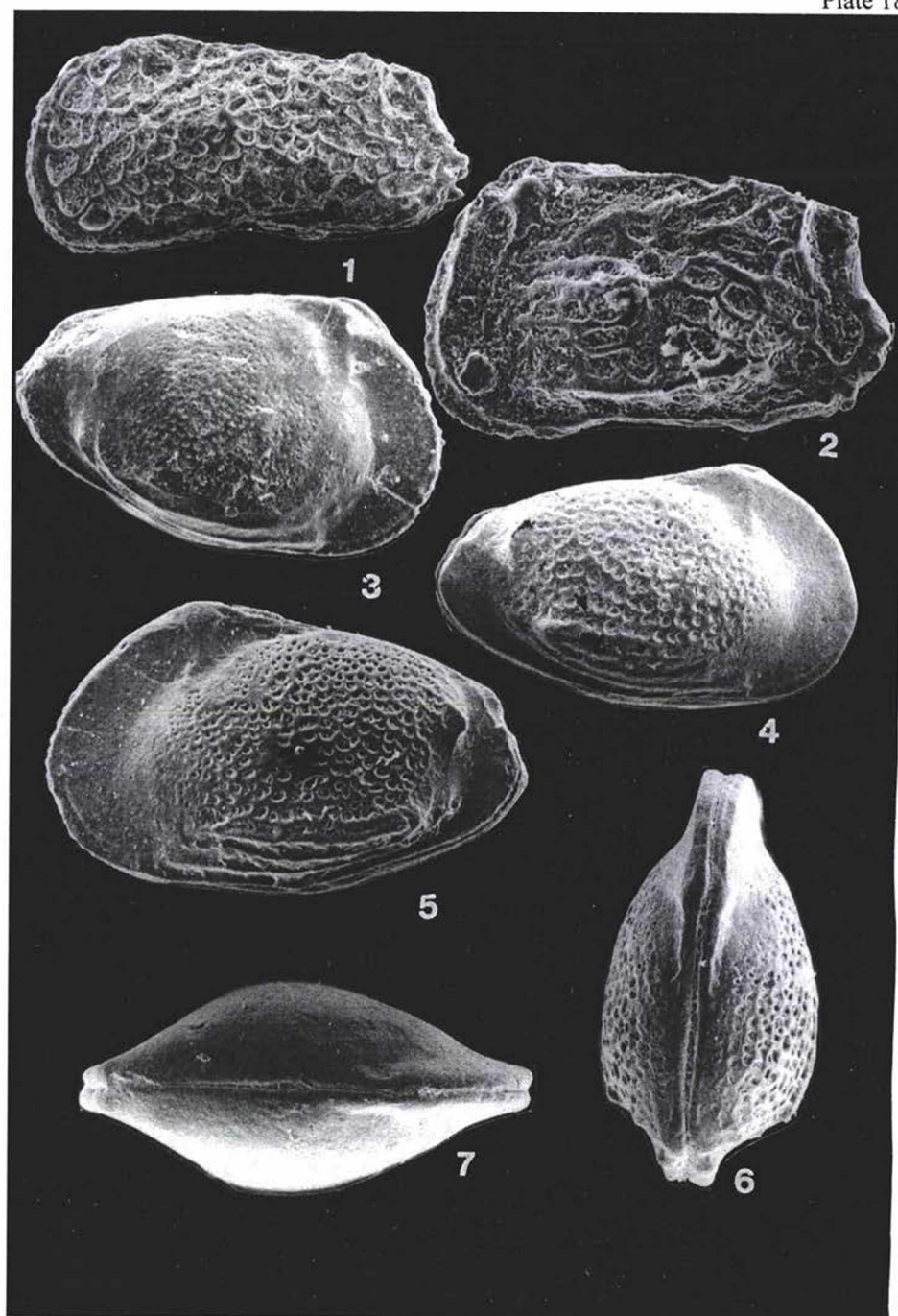


Plate 19

Figs 1–4. *Bosquetina zalanyii* BRESTENSKÁ, 1975

Fig. 1. Carapace from the right valve. 47x

Kiseged road cut section, sample 3a

Fig. 2. Carapace from the right valve. 36x

Budapest, Városmajor–1 borehole 96.7–97.8 m

Fig. 3. Carapace from the left valve. 41x

Budapest, Diana u.

Fig. 4. Carapace from the left valve. 38x

Kiseged 1987 outcrop, sample 1

Fig. 5. *Occultocythereis rupelica* MONOSTORI, 1982

Right valve. 86x

Budapest, Metro H–9 borehole 29.4–31.4 m

Fig. 6. *Cytheretta posticalis* TRIEBEL, 1952

Carapace from the left valve. 52x

Budapest, Zugliget outcrop, sample 3

Figs 7–8. *Cytheretta variabilis* OERTLI, 1956

Fig. 7. Carapace from the right valve. 56x

Pilisszentkereszt Sz 1–74 section, sample i₂

Fig. 8. Carapace from the left valve. 59x

Pilisszentkereszt Sz 1–74 section, sample i

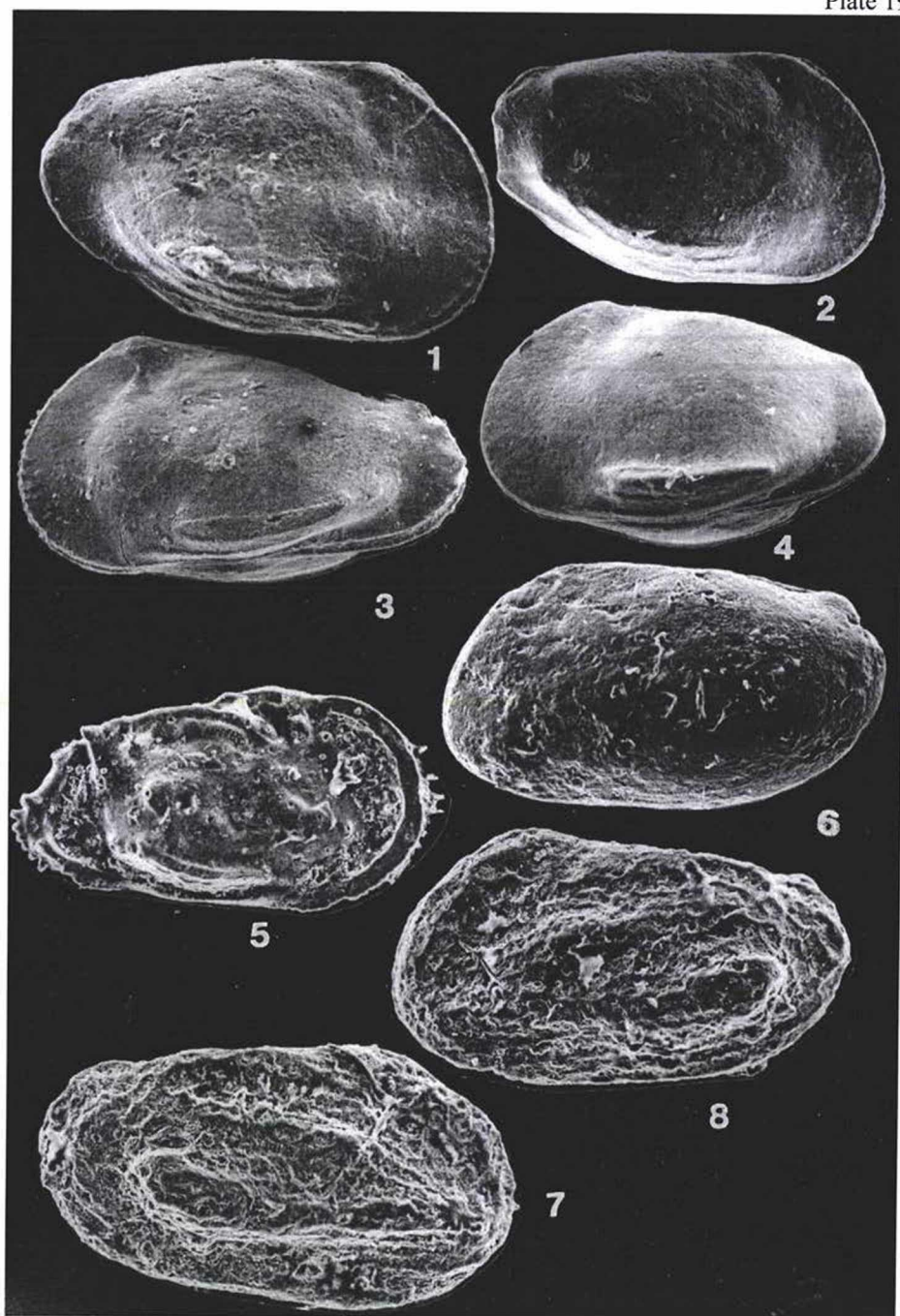


Plate 20

Figs 1–6. *Loxoconcha carinata tardense* MONOSTORI, 1985

Fig. 1. Carapace from the right valve. 110x

Kiseged road cut section, sample 12

Fig. 2. Carapace from the right valve. 108x

Kiscell–1 borehole 56.5 m

Fig. 3. Carapace from the right valve. 110x

Kiscell–1 borehole 51.6 m

Fig. 4. Carapace from the left valve. 117x

Kiseged road cut section, sample 4

Fig. 5. Carapace from the dorsal side. 126x

Kiseged 1987 outcrop, sample 3

Fig. 6. Carapace from the dorsal side. 113x

Kiscell–1 borehole 58.5 m

Fig. 7. *Loxoconcha delemontensis hungarica* MONOSTORI, 1982

Carapace from the left valve. 108x

Budapest, Zugliget outcrop, sample 7

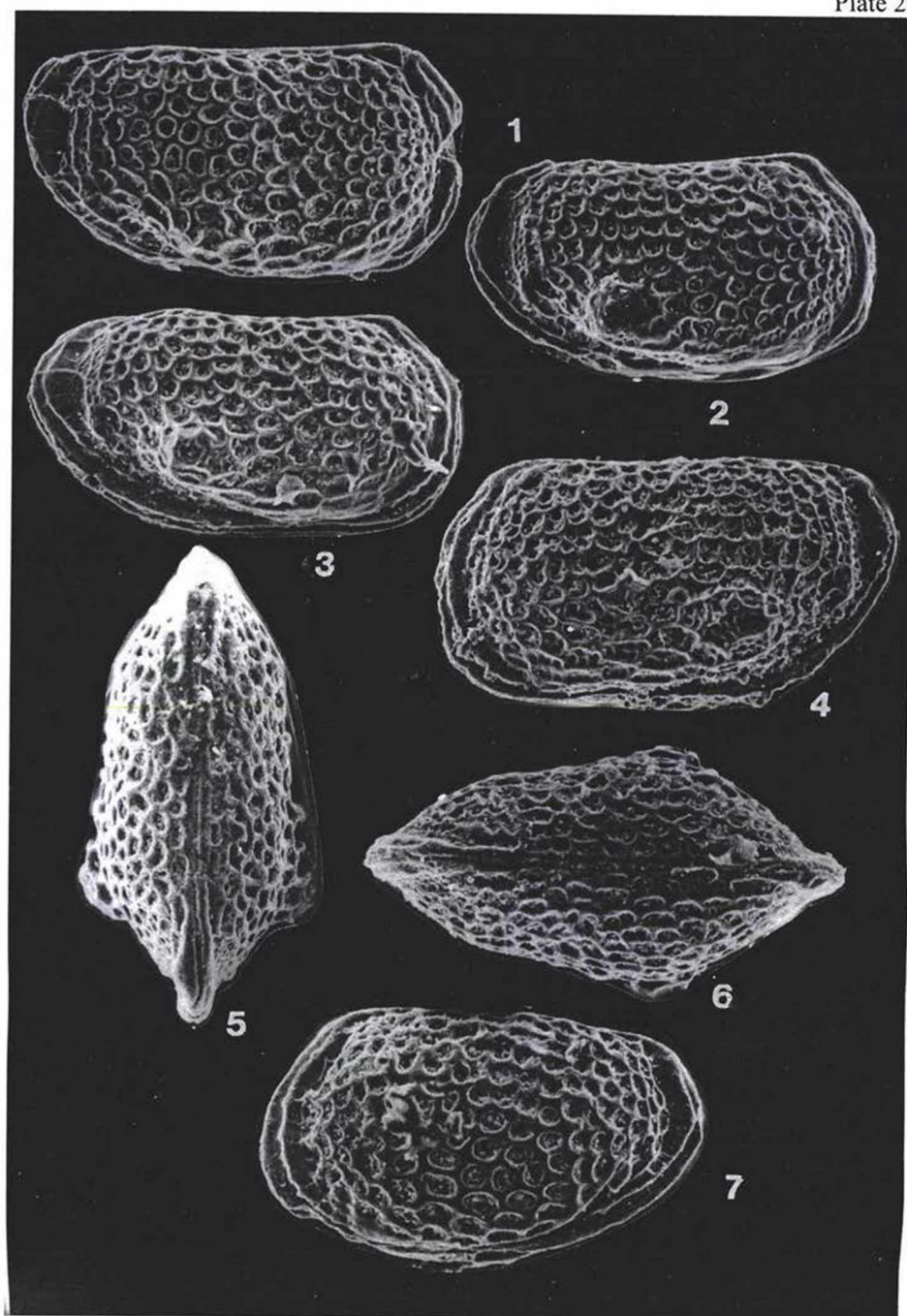


Plate 21

Figs 1–5. *Loxoconcha delemontensis hungarica* MONOSTORI, 1982

- Fig. 1. Carapace from the left valve. 104x
Budapest, Zugliget outcrop, sample 7
Fig. 2. Carapace from the left valve. 121x
Kiscell–1 borehole 56.5 m
Fig. 3. Carapace from the right valve. 113x
Budapest, Metro H–12 borehole 21.0–22.0 m
Fig. 4. Carapace from the dorsal side. 122x
Kiscell–1 borehole 56.5 m
Fig. 5. Carapace from the dorsal side. 104x
Kiscell–1 borehole 58.5 m

Figs 6–7. *Loxoconcha favata* Kuiper, 1918

- Fig. 6. Carapace from the dorsal side. 90x
Pilisszentkereszt Sz 1–74 section, sample i
Fig. 7. Carapace from the left valve. 90x
Pilisszentkereszt Sz 1–74 section, sample i

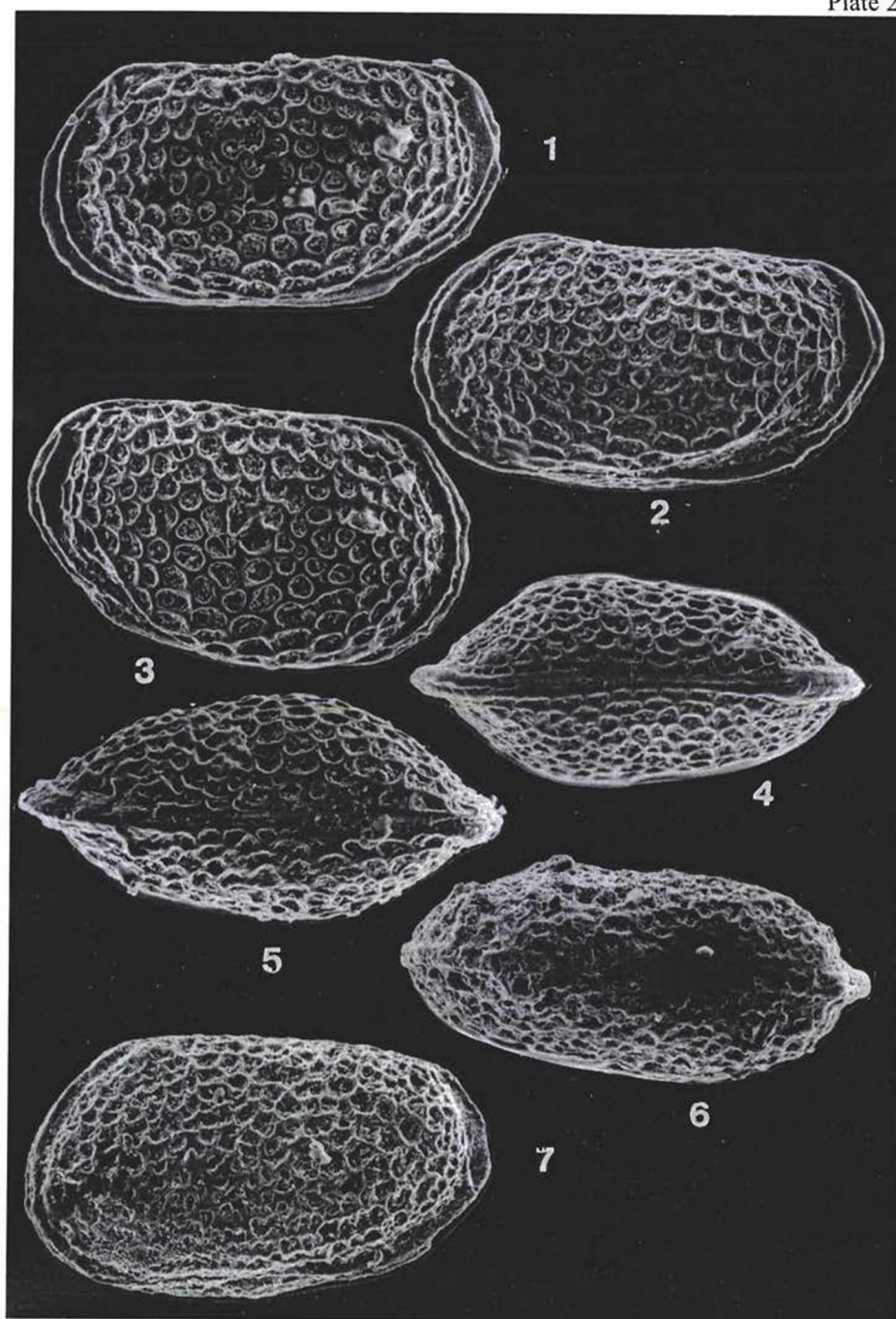


Plate 22

Fig. 1. *Loxoconcha favata* KUIPER, 1918

Carapace from the left valve. 86x

Pilisszentkereszt Sz 1–74 section, sample h

Fig. 2. *Loxoconcha subovata* (VON MÜNSTER, 1830) sensu BRESTENSKÁ, 1975

Carapace from the right valve. 106x

Alcsútdoboz–3 borehole 442.0 m

Fig. 3. *Loxoconcha* ex gr. *aequapunctata* DELTEL, 1964

Carapace from the right valve. 74x

Budapest, Városmajor–1 borehole 96.7–97.8 m

Fig. 4. *Loxoconcha* sp. 1

Carapace from the left valve. 81x

Budapest, Metro H–11/a borehole 59.0–61.0 m

Fig. 5. *Eucytherura dentata* LIENENKLAUS, 1905

Carapace from the left valve. 108x

Kiseged manganiferous clay, sample 4

Figs 6–8. *Cytheropteron emmeneggeri* SCHERER, 1984

Fig. 6. Inside of the right valve. 89x

Kiseged road cut section, sample 3b

Fig. 7. Carapace from the dorsal side. 99x

Kiseged road cut section, sample 2a

Fig. 8. Carapace from the dorsal side. 101x

Kiseged road cut section, sample 12

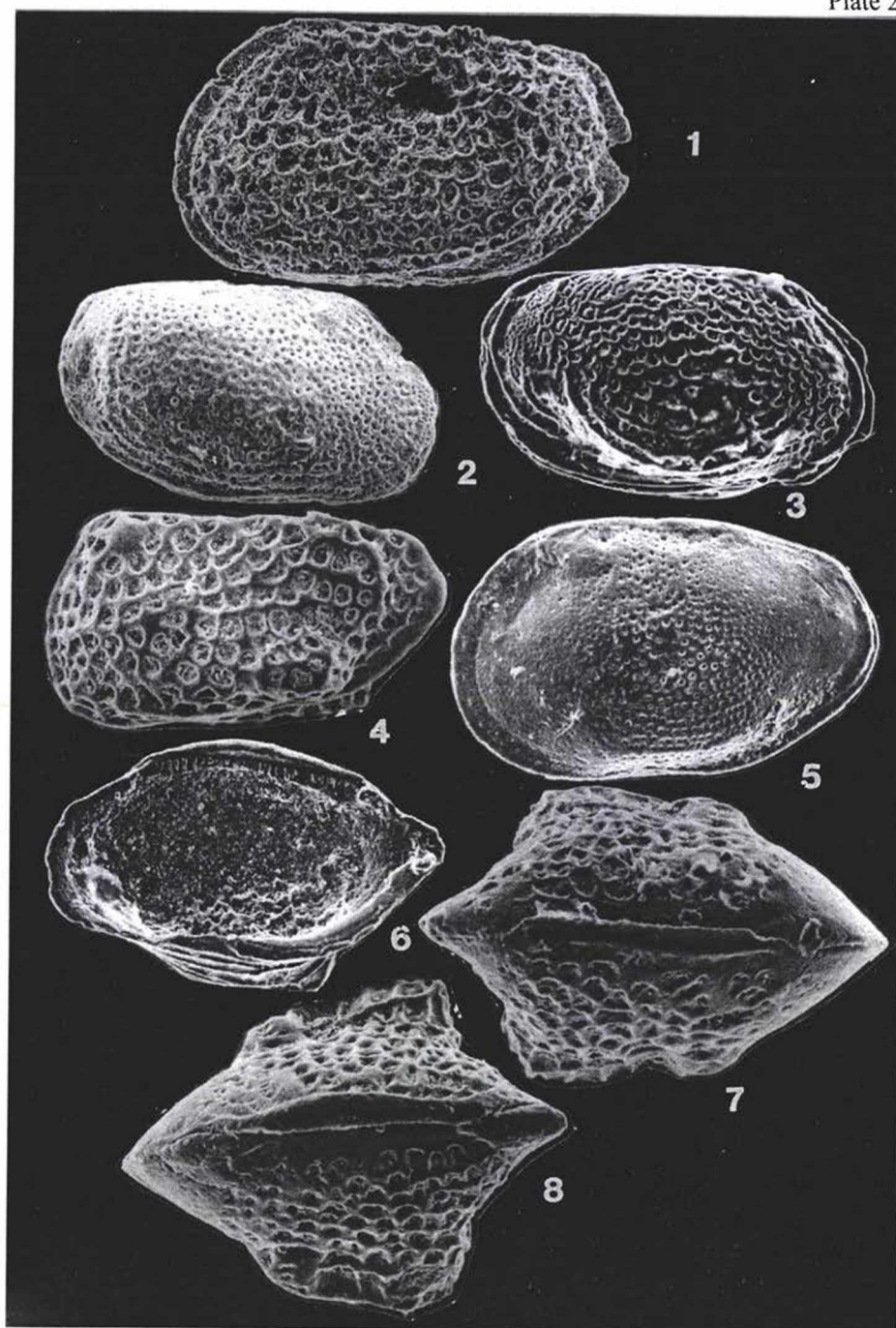


Plate 23

Figs 1–4. *Cytheropteron emmeneggeri* SCHERER, 1964

Fig. 1. Left valve. 99x

Kiscell–1 borehole 59.5 m

Fig. 2. Right valve. 86x

Kiseged road cut section, sample 2a

Fig. 3. Left valve. 99x

Budapest, Metro H–11/a borehole 59.0–61.0 m

Fig. 4. Carapace from the right valve. 95x

Kiscell–1 borehole 58.5 m

Fig. 5. *Cytheropteron* cf. *triangulare* LIENENKLAUS, 1900

Right valve. 99x

Budapest, Metro H–13 borehole 36.0–37.0 m

Fig. 6. *Uroleberis striatopunctata* DUCASSE, 1967

Carapace from the left valve. 81x

Síkfőkút quarry, sample 21

Fig. 7. *Protoargilloecia angulata* DELTEL, 1961

Carapace from the left valve. 80x

Kiseged manganiferous clay, sample 4

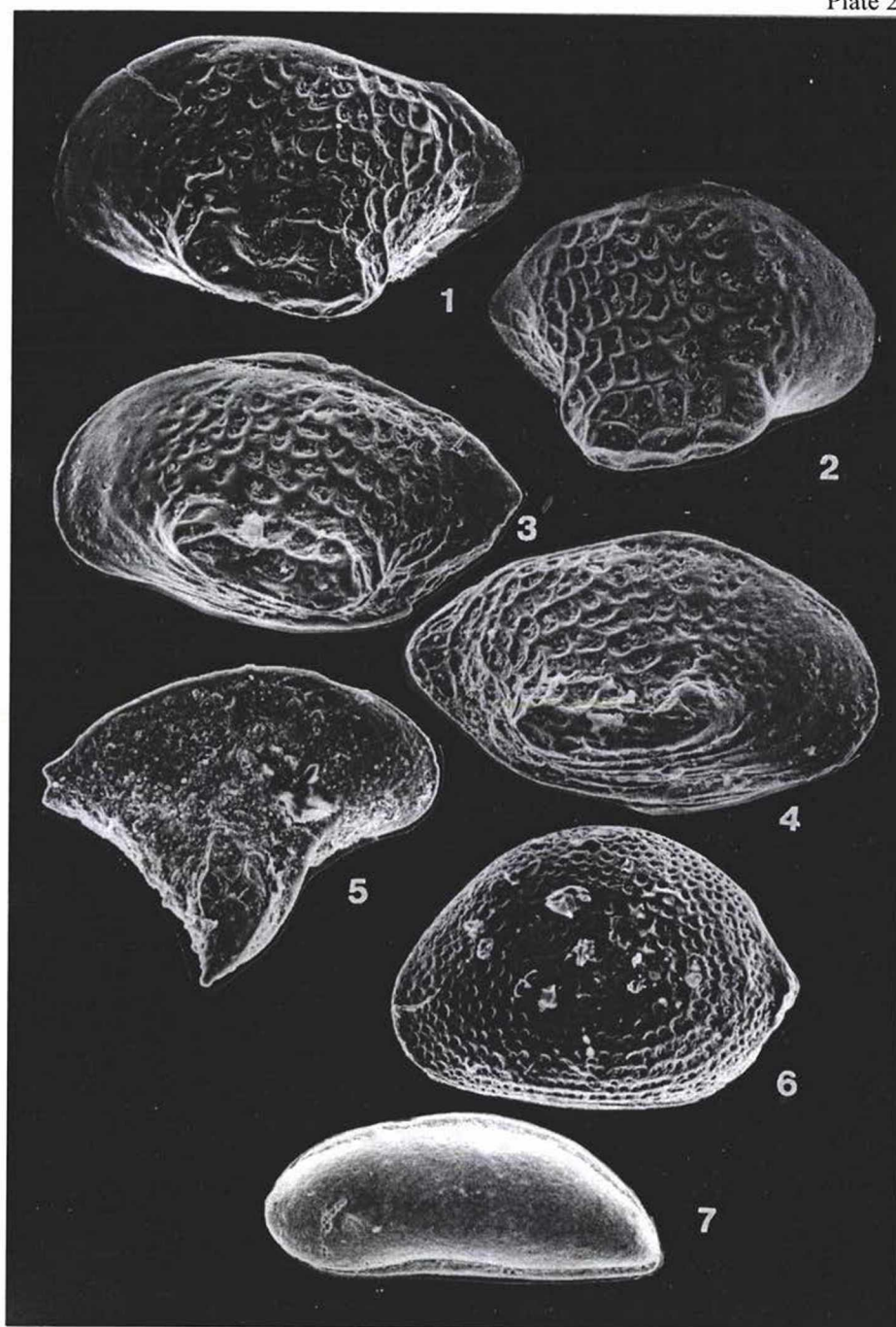


Plate 24

Figs 1–3. *Protoargilloecia angulata* DELTEL, 1961

- Fig. 1. Carapace from the dorsal side. 83x
Budapest, Metro H–2 borehole 52.0–55.0 m
Fig. 2. Carapace from the left valve. 99x
Budapest, Metro H–2 borehole 36.4–39.1 m
Fig. 3. Carapace from the left valve. 99x
Budapest, Metro H–2 borehole 56.6–61.6 m

Figs 4–6. *Paracypris? rupelica* MONOSTORI, 1982

- Fig. 4. Right valve. 59x
Cserépváralja–1 borehole 285.8–286.8 m
Fig. 5. Carapace from the right valve. 54x
Kiseged manganiferous clay, sample 1
Fig. 6. Left valve. 45x
Budapest, Metro H–1 borehole 43.6–47.6 m

Figs 7–8. *Paracypris? kisegedensis* n. sp.

- Fig. 7. Left valve. 68x
Kiseged 1987 outcrop, sample 1
Fig. 8. Carapace from the right valve. 56x Holotypus
Kiseged road cut section, sample 12

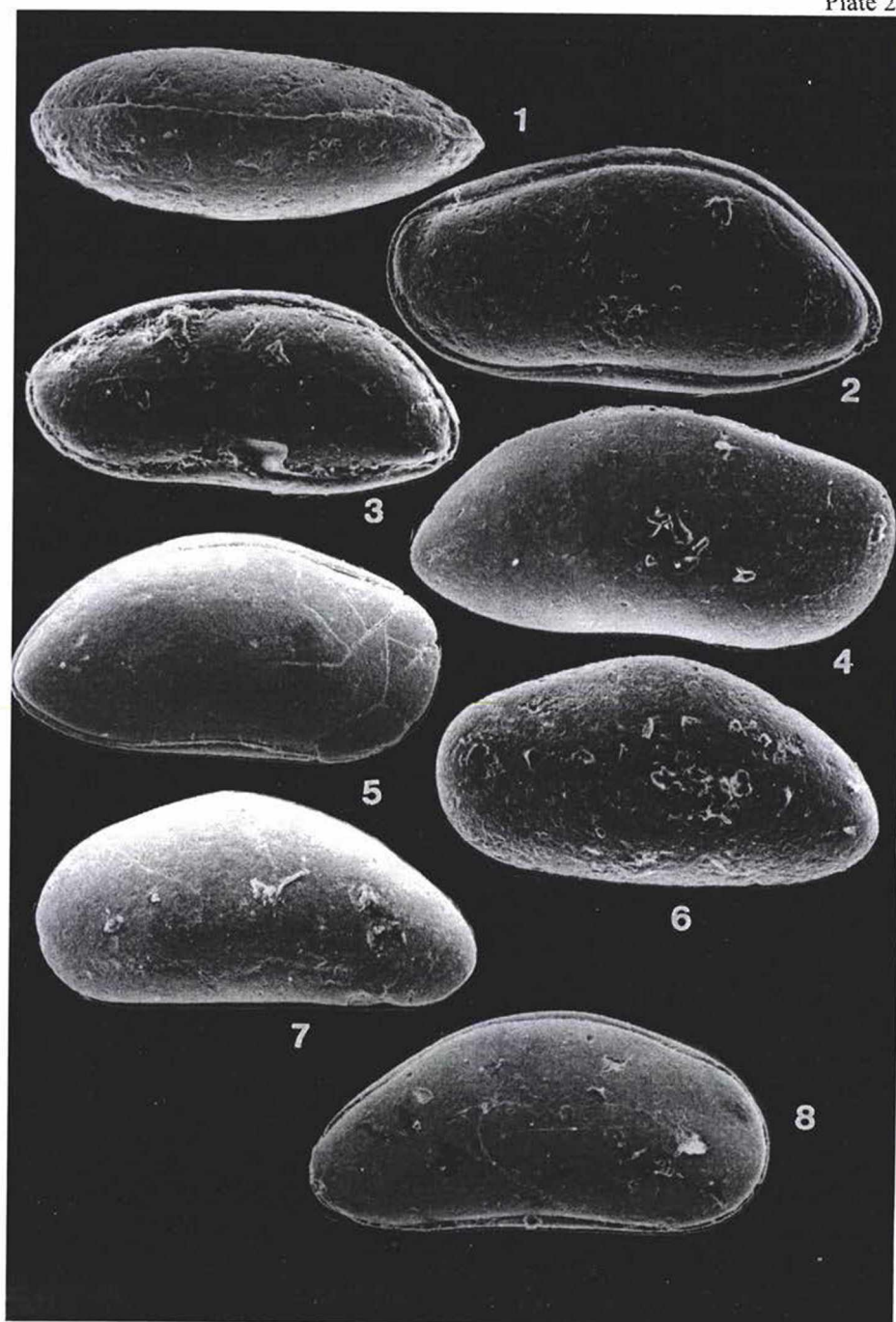


Plate 25

Fig. 1. *Paracypris? kiségedensis* n. sp.
Carapace from the right valve. 47x
Kiséged 1987 outcrop, sample 1

Fig. 2. *Paracypris* ex gr. *propinqua* TRIEBEL, 1963
Carapace from the right valve. 47x
Kiséged 1987 outcrop, sample 1

Figs 3–5. *Paracypris* cf. *bouldnorenensis* KEEN, 1978

Fig. 3. Carapace from the dorsal side. 61x
Pilisszentkereszt Sz 1–74 section, sample i₂

Fig. 4. Carapace from the right valve. 67x
Pilisszentkereszt Sz 1–74 section, sample h

Fig. 5. Carapace from the left valve. 61x
Pilisszentkereszt Sz 1–74 section, sample h

Fig. 6. *Candona fertilis* TRIEBEL, 1963
Left valve. 50x
Budapest, Törökvész–8 borehole 7.5 m

Figs 7–8. *Candona? recta* LIENENKLAUS, 1905

Fig. 7. Carapace from the dorsal side. 50x
Kiséged 1987 outcrop, sample 1

Fig. 8. Carapace from the right valve. 54x
Budapest, Törökvész–13 borehole 20.0 m

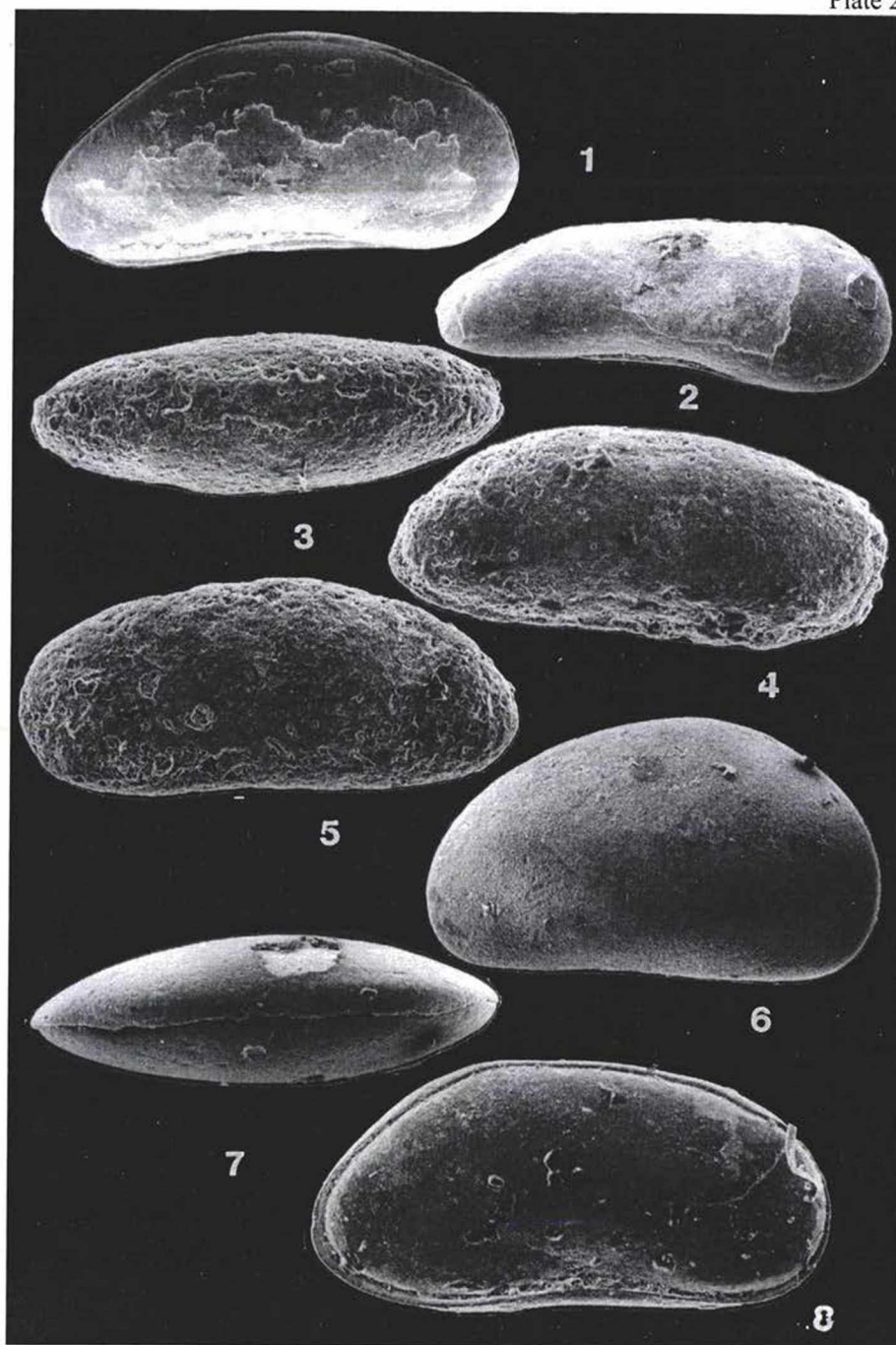


Plate 26

Figs 1–6. *Candona? recta* LIENENKLAUS, 1905

- Fig. 1. Inside of the left valve. 61x
Budapest, Törökvész–6 borehole 3.5 m
- Fig. 2. Carapace from the right valve. 52x
Kiseged road cut section, sample 3a
- Fig. 3. Carapace from the right valve. 52x
Kiseged road cut section, sample 3b
- Fig. 4. Inside of the left valve. 56x
Budapest, Zugliget outcrop, sample N°7
- Fig. 5. Carapace from the right valve. 45x
Budapest, Városmajor–1 borehole 96.7–97.8 m
- Fig. 6. Left valve. 52x
Kiseged 1987 outcrop, sample 2

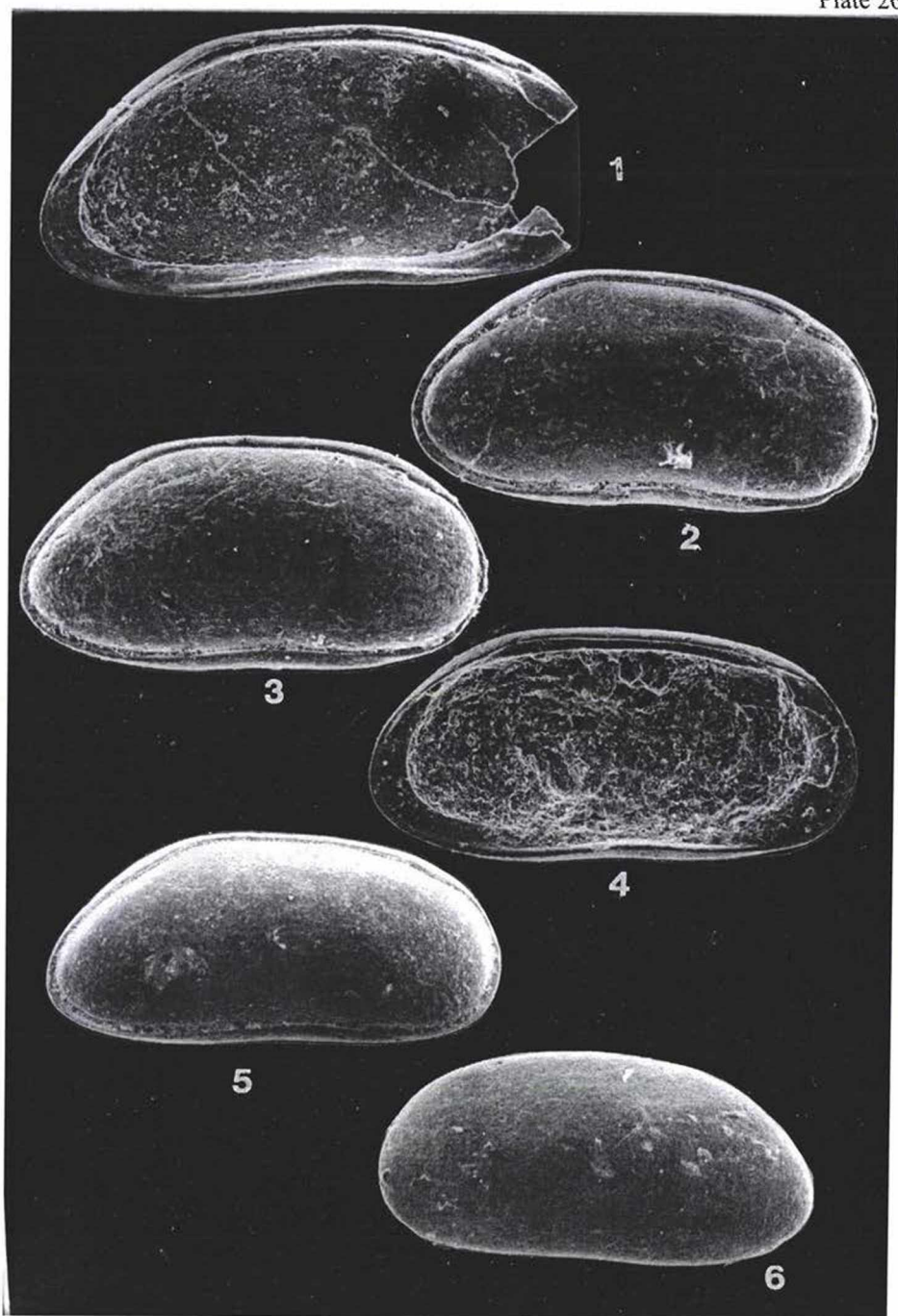


Plate 27

Fig. 1. *Candona?* sp. indet

Carapace from the right valve. 44x

Kiseged road cut section, sample 3b

Figs 2–4. *Moenocypris bockenheimensis* TRIEBEL, 1963

Fig. 2. Carapace from the right valve. 56x

Kiseged 1987 outcrop, sample 1

Fig. 3. Carapace from the right valve. 57x

Kiseged, 1987 outcrop, sample 2

Fig. 4. Carapace from the right valve. 65x

Kiseged road cut section, sample 3a

Figs 5–6. *Curvopsis curvata* (LIENENKLAUS, 1905)

Fig. 5. Carapace from the right valve. 56x

Kiseged 1987 outcrop, sample 3

Fig. 6. Carapace from the right valve. 56x

Kiseged 1987 outcrop, sample 1

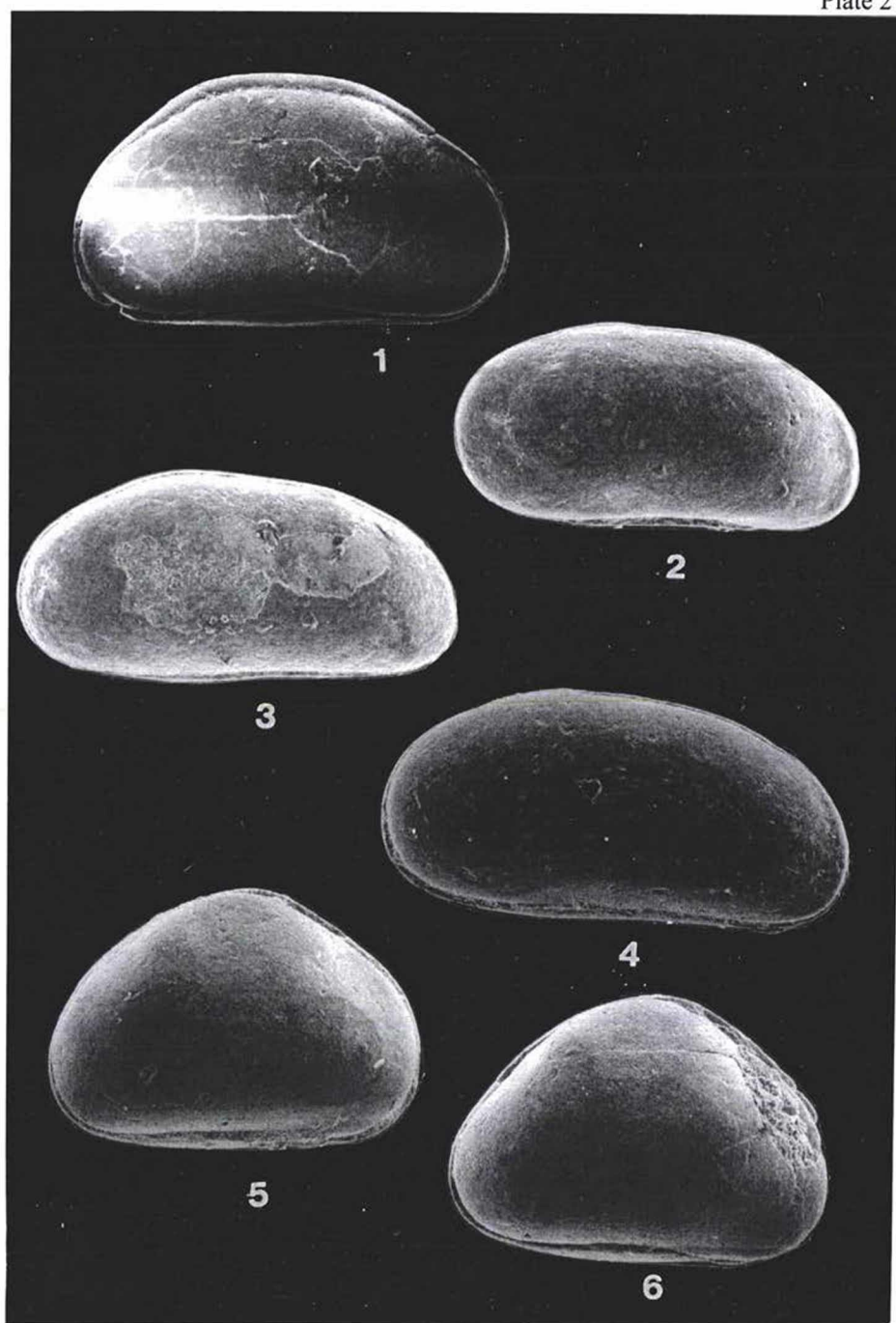


Plate 28

Figs 1–2. *Curvopsis curvata* (LIENENKLAUS, 1905)

Fig. 1. Carapace from the right valve. 61x

Kiseged road cut section, sample 3b

Fig. 2. Left valve. 54x

Kiseged 1987 outcrop, sample 2

Figs 3–4. ? *Curvopsis curvata* (LIENENKLAUS, 1905)

Fig. 3. Left valve. 56x

Kiseged 1987 outcrop, sample 3

Fig. 4. Carapace from the right valve. 72x

Budapest, Törökvész–8 borehole 7.5 m

Fig. 5. Cypridopsidae gen. et sp. indet. 3, 1982

Left valve. 101x

Budapest, Törökvész–6 borehole 4.0 m

Fig. 6. Ostracoda gen. et sp. indet. 1.

Carapace from the left valve. 86x

Szentendre–2 borehole 1084.0 m

